Genesee Farmer.

Vol. XVII, Second Series. ROCHESTER, N. Y., SEPTEMBER, 1856. No. 9.

CULTIVATION OF WINTER WHEAT.

No soil can produce wheat unless it contains, in an available condition, all the inorganic elements of plants. It does not follow, however, that if these are present in sufficient quantity, the soil will produce good wheat. Indian corn is composed of precisely the same elements as wheat, and the proportions are nearly identical. Yet we have much land that produces excellent corn, that is not adapted to wheat culture. We know so little in regard to the manurial requirements of Indian corn, that we can offer no chemical explanations of this fact. We know that wheat requires in the soil, a large quantity of ammonia, for the production of a good crop; and nearly every well established fact in regard to corn culture goes to show that the same is true of this crop. We come to the conclusion therefore, that while it is probable there are some chemical causes why one soil is better adapted to wheat culture than another, yet that, so far as we can see at present, the difference is owing principally to the mechanical conditions and texture of the soil.

Wheat delights in a compact, calcareous loam, rather clayey than sandy. We have heard farmers say that they preferred a sandy to a clayey soil for wheat, but this opinion arises from the fact that most of our clay land needs underdraining. A calcareous clay that is underdrained, or naturally dry, is better for wheat than a sandy soil under similar conditions. Why it is, we know in part;—the double silicate of alumina and soda parts with its soda and absorbs ammonia from rain water, the atmosphere, and from any other bodies containing it. Sand does not possess this property; and herein lies one reason why a clay soil is better for wheat than a sandy one. Clays, too, have the power of absorbing and retaining moisture to a much greater extent than sand. But we can overcome both these drawbacks by an extensive cultivation of clover, peas, turnips, &c., on the sandy soils. These plants absorb ammonia from rain water and the atmosphere, and thus accomplish the same end as the double silicate of alumina and soda, while the carbonaceous products arising from their decomposition in the soil give the soil an increased capacity for absorbing and retaining moisture. These considerations lead to the conclusion that the farmer has the means in his power to make a sandy soil as good for wheat-growing purposes as a clayey one, in every respect, so far as we can see to the contrary with the little light we possess on this subject, except in its mechanical condition.

As we have said, a wheat soil must be compact. If it is not so naturally, mechanical means should be employed to compress it. Treading light wheat land in the fall or early in the spring with sheep, is frequently beneficial, and a good heavy roller is decidedly advantageous. Crosskill's Clod Crusher, a cut of which will be found on another page, compressing land, as it does, similarly to the treading of sheep, is found very useful on sandy wheat fields in England. We are earnest advocates of deep plowing and thorough pulverization of the soil, but these must not be carried to excess in wheat culture. It is easy to make the light land too fine and loose for wheat. When wheat is sown on a clover sod after one plowing, it is not advisable to plow it too deep; if the sod is all covered and a good "seed bed" obtained that is enough. Subsoil and plow deep for corn and root crops, and if you summer fallow, for wheat also, but if wheat is sown at one furrow on a clover sod turned under immediately before seeding, we should seldom go more than six inches deep. The best large field of wheat we ever saw in England, was on a calcareous loam that had been two years in red clover, grazed with sheep, which, a considerable portion of the time, were allowed a lb. of oil-cake a day. It was plowed about three inches deep, just before sowing, and a bushel and a half of seed drilled in per acre, one foot apart in the drills. The yield was 55 bushels per acre.

The question of thick or thin sowing, so fiercely agitated in England a few years ago, by Davis, Mechi, Huxtable, and other ultra agricultural reformers, is now pretty much decided. A peck of seed to the acre is amply sufficient, as they contended, if it all grows, and the crop escapes wire-worms, winter-kill, &c.; but it is found that those who practice such extreme thin seeding always lose more from these causes than those who sow thicker, and that these losses more than counterbalance the gain from saving a bushel or two of seed per acre. Taking into consideration the many pests that infest our wheat crop, we are inclined to think, that, if anything, we sow too thin. Two bushels per acre is none too much when sown broadcast, or a bushel and three pecks when sown by the drill. The majority of English farmers sow three bushels per acre, and we know some of them who sow 3½ and even 4 bushels per acre. This would be greatly too much in our climate; but we must not err in the other direction.

The best artificial fertilizer for wheat is unquestionably Peruvian guano. The lumps of the guano should first be sifted out and crushed. It can then be mixed with muck in equal parts, or sown alone,

broadcast, at the rate of from 200 lbs. to 400 lbs. per acre. It should be harrowed or cultivated in, thoroughly incorporating it with the soil, before sowing the seed. This we prefer; on very sandy soil, it might be advisable to sow 100 lbs. per acre in the fall after the wheat is sown, and another 100 lbs. early in the spring. On heavy land it should always be sown in the fall, and the longer it is incorporated with the soil before the seed is sown the better. The earth is a stomach in which food for plants is digested and prepared; and time should be allowed for it to accomplish this before the plants require nourishment. On light soils, however, there is danger of its leaching if sown too early; and there is less necessity for doing so, as from the admission of air, light and heat, chemical changes take place much more speedily in sandy soils than in those of a close texture.

Plaster is frequently recommended for wheat, and there are many instances recorded where it has proved very beneficial, but the mass of testimony is against it. In the wheat growing districts of this State, it is frequently sown on wheat in the fall; but it is rather with an eye to its effect on the clover, to be sown the following spring, than to any action it has on the wheat. Many will object to this, and contend that plaster does good on wheat. To this we would say, that if plaster acts well as a manure for wheat on your land, by all means use it. When it sells from $2 to $5 per ton, as in Western New York, it is the cheapest of fertilizers on all soils where experience shows it to be beneficial. At present, experience—or what is simply a short cut to experience, experiment—is the only guide in this matter. The same may be said in regard to salt as a manure. Many instances are recorded where it has had a magical effect. Some such have come under our observation. As a general rule, however, salt is of little benefit on wheat. Prof. WAY suggests that salt acts by increasing the solubility of the silicate of alumina and ammonia. Water containing salt will take up a very much larger quantity of this salt than pure or ordinary rain water. He has expressed the opinion that the silica which forms the stiffening of the straw of wheat, is taken up by the plant in the form of this salt—the ammonia evaporating as the silicic acid is deposited on the straw. If this ingenious hypothesis proves correct, we have at once an explanation of the well known fact that salt stiffens the straw of wheat, and has a tendency to retard excessive and injurious luxuriance. We would say of salt, as of plaster, it is cheap, and every farmer should experiment and ascertain its effect on his own soil. Analysis, in the present state of chemical science, will not aid, though when this subject is better understood, it is highly probable that it may prove useful.

CLOVER SEED.—The inundations in the south of France, where a large quantity of clover seed is usually raised for the English market, have materially injured the crop, and it is feared clover seed will be scarce. Farmers should raise all they can. Do not be tempted to turn your cattle into any clover field you have set apart for seed—better feed a little hay, or buy a few hundred bushels of shorts, which are now very cheap.

IMPLEMENTS which are no longer wanted for the season, should be carefully laid aside and protected from the weather.

A FEW WORDS ON UNDERDRAINING.

THERE is no subject so eminently worthy the earnest attention of American farmers, as that of underdraining. It is erroneous to suppose that *all* land needs underdraining, but we may assume that the greater portion of all the arable, and much of the grass land of this continent, would be much improved by the removal of all surplus water by means of underground conduits. The only question is, will it pay. Where land is sold for $5 per acre, it is hardly to be supposed that it will pay to expend six times the fee simple of the farm in underdraining it. But where land is worth from $50 to $100 per acre in its undrained state, we hesitate not to say that nothing will pay better than an expenditure of $20 or $30 per acre in a judicious process of underdraining. For some years at least, underdraining alone will increase the products of most farms from one-third to one half, and there are many instances on record where it has *doubled* the crops. WM. P. OTTLEY, of Phelps, Ontario Co., N. Y., to whom the N. Y. State Ag. Society awarded the first premium in 1854, for the best managed farm, and the second premium for experiments in draining, says: "It is safe reckoning that draining will pay for itself, with interest of cost, in two crops." This is also the opinion of JOHN JOHNSTON and ROBERT S. SWAN, of Geneva, who have each laid about *sixty-three miles* of tile underdrains on their farms.

Mr. OTTLEY laid a portion of his drains with stone at a cost of 40 cents per rod, and the other portion with tiles at a cost of 31½ cents per rod. The drains were dug 2½ feet deep, and were cut in such parts of the field only as appeared to need underdraining. We should advocate a more thorough system, but "half a loaf is better than no bread," and, indeed, the result of this partial drainage was in the highest degree satisfactory, increasing the value of the land "not less than $5 per acre annually, together with ease and comfort of tillage."

This "ease and comfort of tillage" is no slight advantage. Underdrained land can be plowed earlier in the spring and later in the fall than that which is undrained; and after heavy rains, while the undrained land is too wet for man or beast to work on, the drained soil is sufficiently dry to allow the usual farm labors to proceed without interruption.

Underdraining lies at the foundation of all agricultural and horticultural improvement, and it is as unwise to expend money in attempting to increase the fertility of a farm that needs underdraining by deep plowing, and good cultivation alone, or by the application of natural or artificial manures, &c., as it would be to build an expensive house on quicksand. In improving a farm, as in everything else, you must "begin at the beginning." This is the only true economy. Provide means for speedily removing all excess of water from the land, and you are then, and not till then, in a condition to carry out any other improvement that may be desired.

As long as the country is new, and the roots of trees afford a kind of natural drainage, land suffers little from drouths and wet seasons—it is partially underdrained. But as the roots decay out, the natural conduits are filled up, and we must go to work and provide artificial ones.

"All this is true," a farmer at our side replies, "but I cannot afford to underdrain. It is a very expen-

sive operation, and I have not the money to spare. I know quite well that my crops this year were not half what they would have been, had the land been underdrained, but then the idea of spending $20 or $30 per acre in draining, is in my case simply impossible; I have not the means to do it with."

"But would it not be better to sell a portion of your farm, and expend the money in underdraining the other portion? We know that under certain circumstances it is desirable to hold land, even if nothing is received from it, the "rise in real estate" making up for the loss; but this aside, it is far better to have 100 acres of well drained land, than 150 that, from lack of draining, produces only half a crop. We speak advisedly when we say that the former can be carried on with half the labor of the latter, while the crops are one-third larger."

"True, but if I should sell off one quarter of my farm, and expend the money in improving the other three-fourths, I should not be able to sell the improved 100 acres for enough more to pay me back the money buried in underdrains. People wont pay for improvements, especially for those which are out of sight,"

"Money judiciously expended in underdraining is not buried out of sight. Cut an underdrain through that field, and the wheat next year for a short distance on each side of it, shall be double what it is on the other portions of the field. No, sir, money buried in underdrains is not out of sight. Every dollar next harvest shall come again rejoicing, bringing his sheaves with him. But, then, supposing the farm will not sell for enough more to pay the cost of draining, what do you want to sell for? This desire to sell does more to retard improvements in American Agriculture than everything else put together. The lack of capital is a great drawback, but it is nothing compared with this restlessness which seems indigenous to a new country. This love of change will doubtless work its own cure, and in the meantime we will guarantee that in ninety-nine cases out of a hundred, money judiciously expended in underdraining a good farm in the older settled States, will pay a higher interest than that invested in any other way. In addition to this, you have the pleasure of seeing your farm gradually improve under your hands, and the consciousness that you are adding to the wealth and stability of the country." Every one who has had experience in underdraining, will bear us witness that it is of all farm labors the most fascinating, and if these few trite remarks shall induce any one to lay only a few rods of underdrains on his farm, this fall, our object will be attained, for we are quite satisfied that he will not stop, so long as there is a wet, undrained acre on his farm.

MOWING MATCH.—The *True Californian* gives an account of a mowing match which came off on the 9th instant, in Vallejo Valley, near the town of Vallejo, between Addison M. Ripley, from Maine, and Mr. Ball, from Vermont. The task was five acres of grass each, turning off two and a half tons to the acre! They mowed against time. Mr. Ripley won the match, finishing his work in seven hours and fifty-five minutes, and beating his adversary a quarter of an acre!! The stake was five hundred dollars. Mowing machines would not stand much chance with such men.

THE IMPROVEMENT OF GRASS LANDS.

In the improvement of grass land, the first thing to be done, is the removal of all stagnant water by means of thorough underdraining. Unless this is accomplished, the best of cultivation, seeding and top-dressing, will fail to produce their full effect.

When our meadows fail, from whatever cause, it is generally advisable to plow them up in the fall, and cultivate them thoroughly for two or three years, with corn, potatoes, or other root crops, manuring them heavily, and seeding down again when the white daisy and other weeds have been destroyed, and the old turf has entirely disappeared. If, however, the land is so low that it is not desirable to cultivate it with other crops, it may be plowed up in August, and well worked with the cultivator, harrow, &c., till a fine "seed bed" is obtained, not forgetting to give it a good coat of manure;—if long manure, plow it in; if well decomposed compost, which is best, spread it on the furrows, harrow and cultivate till it is thoroughly incorporated with the soil. About the first of September, sow it with artificial grasses, and be not sparing of the seed; half a bushel of timothy and half a bushel of red-top, or other grasses in proportion is none too much. Generally, by so doing, a fair crop of good hay is obtained the next season. This method of re-stocking worn out meadows has been practiced with much success by many excellent farmers in New England. Some of them recommend sowing clover with the timothy and red-top, in the fall, but we should be inclined to fear it would seldom survive our hard winters; unless, indeed, it were sown quite early, say in July or first of August.

We have seen meadows greatly improved by simply scarifying the sward in the fall by means of a heavy harrow, and then sowing from eight to sixteen quarts of timothy, red-top and rye-grass seeds, equal parts, to the acre. In the case alluded to, heavy rain followed immediately after the sowing, and the seeds were not harrowed in at all, but generally it would be well to cover them slightly with a light harrow. A good coat of compost, spread on the sward before the first harrowing, would be of much benefit.

The best time to top-dress all meadows that are not of too light or porous a nature, is in the fall. In England nothing was more common, twenty years ago, than to make a compost with barn-yard manure and old headlands, and after it was well decomposed, to cart it on to the meadows during the winter months. The effect was very beneficial. Unmixed manure was seldom used. Since the introduction of Peruvian guano, however, the practice of composting old headlands has, to some extent, given way to top-dressing with light artificial manures. Guano gives a better immediate effect, at a much less cost; but whether it is ultimately more profitable is an open question. With hay at from $15 to $20 per ton, there can be no doubt that a judicious application of good Peruvian guano, in the fall, or *very early* in the spring, will give sufficient increase, for a few years at least, to pay for the guano and have a reasonable profit. The constant exportation of hay draws heavily on the soil for potash, and as *guano contains very little potash*, (not more than two per cent.) it may reasonably be supposed that to manure with guano alone, will soon leave the soil deficient of available potash. If such should be the case, an application of wood ashes would supply the deficiency.

TO PRODUCE SEEDS ON EARLY POTATOES.

The earliest varieties of potatoes do not produce flowers or seeds. Knight, desirous of saving seed from one of these sorts, took a very ingenious method of inducing the plants to produce flowers. "I suspected the cause," he says, "of the constant failure of the early potato to produce seeds, to be the preternaturally early formation of the tuberous root; which draws off for its support that portion of the sap which, in other plants of the same species, affords nutriment to the blossoms and seeds; and experiment soon satisfied me that my conjectures were perfectly well founded. I took several methods of placing the plants to grow in such a situation as enabled me readily to prevent the formation of tuberous roots; but the following appearing the best, it is unnecessary to trouble the Society with an account of any other. Having fixed strong stakes in the ground, I raised the mould in a heap round the bases of them, and in contact with the stakes: on the south side I planted the potatoes from which I wished to obtain seeds. When the young plants were about four inches high, they were secured to the stakes with shreds and nails, and the mould was then washed away, by a strong current of water, from the bases of their stems, so that the fibrous roots only of the plants entered into the soil. The fibrous roots of this plant are perfectly distinct organs from the runners, which give existence, and subsequently convey nutriment to the tuberous roots; and as the runners spring from the stems only of the plants, which are, in the mode of culture I have described, placed wholly out of the soil, the formation of tuberous roots is easily prevented; and whenever this is done, numerous blossoms will soon appear, and almost every blossom will afford fruit and seeds."

Knight considering that the above facts, which are more fully explained in the *Philosopoical Transactions* for 1806, were sufficient to prove, that the same fluid or sap gives existence alike to the tuber, and the blossom, and seeds, and that, whenever a plant of the potato affords either seeds or blossoms, a diminution of the crop of tubers, or an increased expenditure of the riches of the soil, must necessarily take place, succeeded in producing varieties of sufficiently luxuriant growth and large produce for general culture which never produced blossoms.

Liebig states that he has found from actual trial, that the produce of a plot of potatoes from which the blossoms had been removed, was much larger than on an adjoining plot, on which the potatoes were allowed to mature seed. Certainly it is probable that such would be the case; nevertheless, there are those who state that they have tried plucking off the blossoms of potatoes, without any benefit, and sometimes with decided injury to the crop. Have any of our readers any experience on this point?

Use of Clover to Enrich Land.—I have sowed clover seed some 15 or 20 years, and find it a very cheap mode of enriching land. Some land on my farm that would not produce over 25 or 30 bushels of corn per acre, when I bought it, will now produce 75 or 80 bushels per acre—and with a good coat of manure I have no doubt it could be made to produce in a good season, over one hundred bushels per acre. —T. Gardner, *in Ohio Cultivator.*

CULTIVATION OF THE JERUSALEM ARTICHOKE.

Messrs. Editors:—I received the ten volumes of the *Genesee Farmer* safe, and in good condition. I was pleased with the binding. They are quite an addition to my library, and I never invested seven dollars and fifty cents with more satisfaction. It seems as though there was something about every subject that could interest the farmer and gardener; but in one particular I failed to get the knowledge I desired. A neighbor of mine advises me to raise the Jerusalem Artichoke; recommending it highly. I thought for certain I should be able to find out all about it in some one of the ten volumes of the *Genesee Farmer*, but on examining them all over I can find no allusion to it whatever!

If you or some of your intelligent correspondents would give an article on the cultivation, chemical composition, gnd general characteristics of the Jerusalem artichoke, you would much oblige

A New Jersey Farmer.

Some years ago, the Jerusalem artichoke, *(Helianthus tuberosum,)* attracted considerable attention in this country, and, in the Middle and Southern States especially, many farmers engaged in its cultivation. For some reason or other, little is said about it at the present time, and we apprehend that it failed to meet the expectations of its sanguine introducers. It is amusing and instructive, at this time, to read the highly colored statements made in regard to this plant in the back volumes of some of our agricultural papers. Like the *Dioscorea* at the present time, it was said to be an admirable *substitute for the potato,* quite as nutritious, and infinitely more productive. According to *Allen's American Farm Book,* it yielded two thousand bushels of tubers per acre! and this was not all. Besides the tubers, it was said to produce from four to five tons of dry tops per acre, equal to the best hay! In addition to this, the plant required no cultivation; obtained its nitrogen from the air, and did not impoverish the land at all; and the tubers would remain in the soil during the hardest winters without injury!!

The Jerusalem artichoke is misnamed, it does not belong to the artichoke family; *it is a sunflower.* It is a native of Brazil, and was introduced into Europe in 1617. It is perfectly hardy—much more so than the potato and the yam, both of them natives of the same hot climate. The roots are composed of a number of oblong tubercles, very large and fleshy, reddish outside, and white within, resembling a potato. The stems are herbaceous and upright, and from four to six feet high—sometimes 10 or 12 feet.

Their cultivation the first year is similar to that of the common potato. When once in the soil it is impossible to get them out, and after they have been dug as clean as possible and the hogs have rooted out all they can find, there will still be tubers enough left in the ground for a crop. Of course regular cultivation and the use of the horse hoe is impossible.

The tops are cut down by the slightest frost in autumn; but the tubers, like the parsnip, may be left in the ground all winter.

In the Southern and South-western States, they have been cultivated to a considerable extent as food for hogs. The hogs are very fond of them, and root them out of the ground. How far this is profitable we have no means of knowing. There are plenty of statements in our agricultural papers written during

the Artichoke Fever, but we should as soon think of basing any sober calculations of profit on them, as we should on the statements made at the present time in regard to the *Dioscorea batatas*.

Boussingault, who is not given to hyperbole, remarks that "of all the plants that engage the husbandman, the Jerusalem artichoke is that which produces the most at the least expense of manure and of manual labor."

Kade states that a square patch of Jerusalem artichokes in a garden was still in full productive vigor at the end of thirty three years, throwing out stems from seven to ten feet in length, although for a very long time the plant had neither received any care nor any manure.

"The leaves of the helianthus," says Boussingault, "are used in many places as forage, the stems being cut a few inches from the ground; the gathering takes place at different periods of the year, but probably to the detriment of the tubers; it may be lucrative to destine the leaves for the nutriment of cattle, but I believe we have to choose between the green crop and the crop of tubers. It is unquestionable that the premature removal of the green stems must prove injurious to the roots; on my own farm the leaves are never removed, and my opinion is, that it is vastly more advantageous to depend upon the crop of tubers alone. The tubers are gathered as they are wanted, for, not dreading the frost, they remain in the ground the whole of the winter; they do not require, like the potato, to be collected and pitted at a certain period, they require no particular situation, no particular care for their preservation; the only disadvantage that accompanies their being left in the ground, is that during very hard frosts the labor required to get at them is very great. During winter the woody stems of the plant dry up, they are then useful as combustible matter; but a better use of them perhaps, is to make them enter in certain proportions into the litter of the hog stye; the pith there absorbs a large quantity of the liquid manure. Schwertz estimates the mean quantity of dry leaves and stems at three tons per acre. The following quantities of tubers have actually been gathered in Alsace:

	Tons	cwts.	qrs.	lbs.
Sandy soils,	4	3	3	6
Soils of the best quality,	10	8	3	13
At Bechelbronn (mean,)	10	16	0	8
Bechelbronn crops of 1839-40,..	15	16	1	16

We could easily furnish our correspondent with the chemical composition of the artichoke, but in the present state of our chemical science, the analyses of plants as usually given, afford, to our mind, very little satisfactory information in regard to the nutritive value of the plant, and none in regard to the soil and manures best adapted to its growth. However, as we feel in duty bound to furnish all the information in our power when required by our readers, if our correspondent is really desirous of ascertaining the composition of the artichoke, we can, in the October number, give him the analyses of M. M. Boussingault, Braconnot and Payen, and of Prof. Way and Dr. Salisbury.

We should be glad to hear from any of our correspondents who have cultivated the artichoke as a field crop.

When the apple is fed to the larger animals, hay and grass should always accompany it; and when fed to hogs, fresh clover or grain should be added.

THE WEATHER, WHEAT MIDGE, &C.

Editors Genesee Farmer.—This 29th day of June is, I think, the warmest of the season. My thermometer marks 93° in an old store-room standing clear of the house, so as not to be influenced by fire used in culinary operations. Were it not for the breeze which prevails, we should nearly suffocate. The sweat of my brow is such as to entitle me to an appetite for my bread, in which, the good book says, we shall eat it. The ground is becoming very dry, and if there is no rain for some time to come the hay crop will be well cured before it will be cut, as the timothy is already showing symptoms of premature maturity. Clover shows signs of suffering; yesterday and to-day it has ripened rapidly, or rather dried down; the blossoms are nearly half changed in color. Corn is rolling itself closely up. Apples (small as they are), are dropping very profusely; I begin to fear there will be a short crop. Oats are badly pinched, although there is a chance yet for a fair crop, if there should be rain soon. Wheat is beyond reach of remedy, for the midge have appeared in myriads; scarce a grain but is already in their possession. We shall be obliged to forego the pleasure of wheat culture, (as *I* have for the past five years,) and go to raising stock,—say horses, as they are at this time a well paying stock, and what is certain, they must bear a good price for years to come; for they are higher at the west, from whence there formerly were a good many sent east, for the New York and Boston markets, but now will pay more than they sold for. Besides, the markets cannot be overstocked until they are raised, which must take some four or five years at least. Good oxen, as well as cows, in this Genesee country, bear a paying price. Oxen at six years old, well broke, have been sold at $150 the pair, and milch cows sell readily at from $40 to $60 a head; and not fancy blood at that, such sell for a much higher mark. By raising more stock, we shall have more manure to apply to our corn, potatoes, oats and such other crops as we can raise without paying quite so heavy a midge tax as we must on growing wheat. Thus our lands will be better conditioned to grow wheat, if, after the lapse of some years, the midge should disappear. I will stop, as I am occupying too much space, for one article, in your truly valuable journal. D.—*Gates.*

Wheat turning to Chess.—I saw an article in the last *Genesee Farmer* on the subject of wheat turning to chess. Mr. Johnston, you say, was a believer in wheat turning to chess, but he had tried it, and satisfied himself to the contrary.

Now I will tell you my experience on the subject. Four years ago I cleared off four acres of timbered land, and sowed it with wheat. I had a fair crop when I cut it; there was a very little weevil in it. I burnt the stubble, and got some clean wheat of my neighbor and sowed it again with wheat. There was a low piece of muck ground through the middle of the field. The wheat came up and looked very well until the next summer, and when I cut it there was a strip through the middle of the low ground—nearly an acre—that was all chess, scarcely a head of wheat in it; and on each side of it on the higher ground it was all wheat and no chess! Will Mr. Johnston please explain why that was so in the next *Farmer*, and oblige H. Inman.—*Hagaman's Mills, N. Y.*

CANADA THISTLES AGAIN.

Messrs. Editors:—There are many questions asked and answered, and much said in your and other journals, about Canada thistles and other noxious weeds, but all seem to fail, however well they apply any "certain remedy," in exterminating these prickly pests from the country, or even from their own farms. It is true that if you cut off the tops as fast as they appear above ground, the roots will die. It is also true that a crop of buckwheat succeeded by clover will generally thin them very much; and often, once mo wing will nearly eradicate them for the time being. It is true, too, that laying down to grass and mowing five or six years, generally runs them out till you plow again. But it is not true that mowing, hoeing, plowing, or pulling them, at any particular time of the moon, or day of the month, or state of the weather, is a sure cure; though there are conditions of the plant and states of the weather that are more favorable to their destruction than others.

This pest of agriculture, this curse of the farmer, the greatest vegetable pest to the State of New York, is destined to remain amongst us, and to luxuriate in our choicest soils in spite of all the opposition that can be brought against it, and no person living will ever see it sensibly diminished under its present management, unless it should become diseased, like the potato, and be thus exterminated by a natural process. We can run them out for the time being, from some particular field, but at the same time they are increasing rapidly on some other portion of the farm. It is only on those farms where there is a decided improvement in the general tillage, that the average production of them diminishes.

You may say it is not best to talk so discouragingly to farmers, but the fact is, that we farmers have got so used to them, our fingers have got so callous from being constantly filled with their stings, that we are insensible to the evil, and most of us let enough go to seed every year to seed the whole farm.

I have often heard farmers say, "I care nothing for Canada thistles, I can take care of *them*, but these ox-eye daisies, this stein krout, this patent may weed, this quack grass, sorrel, or dock, I cannot abide." Now, brother farmers, let us reason a little with regard to these noxious weeds. There are three modes by which vegetables are propagated; by seeds, by suckers, and by layers of the tops or roots. There are two ways by which seeds are transmitted to considerable distances; by egret or wings, and by becoming food for birds and other animals and passing through their digestive organs without destroying their vitality, to say nothing of their transmission by man, with other products in various ways. Then, plants are annual, biennial or perennial; valuable or valueless. Let us see how it is with the pests above named.

The ox-eye daisy is food for birds, is propagated only by seeds, has no egret, is a perennial, but if cut in season is good hay, natural only to worn out meadows and pastures, and easily exterminated by culture and manure.

The stein krout is a biennial, food for birds, is propagated only by seeds, the seed has no wings, is good food for cattle, will make paint oil, and is easily exterminated by cultivation.

The patent may weed, or little white daisy, (I know not what else to call it,) is a biennial, not eaten, (I think,) propagated only by seeds, has no wings, valueless, but easily exterminated, as all this class of plants are, by a little perseverance. Of dock we may say, ditto.

The quack grass is perennial, vegetates by suckers, layers and seeds, and is of course hard to kill; but the seed has no wings, is eaten perhaps by birds, but is not unpleasant to handle, and makes good pasture and hay.

Sorrel, I think, is biennial, wingless, propagated only by seeds, which are not eaten, valueless, but grows only where there is an excess of acid in the soil, and easily exterminated by applying lime or ashes, which neutralizes the acid.

The king of pests, the Canada thistle, grown in any soil not very neat, thrives most on the best soils, perennial, propagated by seeds, suckers and layers, has egret, is eaten and transmitted by birds, insinuates its seeds into every kind of grain, hay or straw, thrusts its thorns into our flesh at every touch, they are drawn into the lungs of our horses in the dust of hay, producing heaves; it is valueless, and has not one redeeming quality, unless it be that of bringing nutriment from a great depth, which it certainly ought to do, for its roots run to the depth of ten to fifteen feet in the hardest clay soil. It occupies almost every corner of our fields, every open space in our forests, thrives along our highways, railroads and canals, and in spite of law and man's natural enmity, it there luxuriates, and perfects and disseminates its seed. But all is not yet told. Its seeds, like many others, are encased in a coat of mail, rendering them, at certain depths, or in certain situations, impervious to air and moisture, and preserving their vitality for ages, but ready to burst into life whenever circumstances favor it. This last mentioned property, among the rest, with the apathy that prevails among the tillers of the soil, render it morally certain that we can never exterminate it, and can keep it down only by clean culture and perseverance; and the better we understand the habits of the foe we have to deal with, the more successfully shall we combat it.

Agricola.

Fall Plowing should be Done Early.—The *Boston Cultivator* well says: "Plowing, both for winter grain and for the purpose of rotting the sward before next spring, should be done as soon as practicable. If delayed till the warm weather is past, little or no decomposition will take place, but the vegetable matter will lie inert till spring, and the furrow then be tough and the grass likely to start from it. The sward would rot more in one month before the middle of October, than it would from that time to May. Many farmers often lose the great object they desire to accomplish by fall plowing, on account of overlooking this fact."

On the other hand, the *Cultivator* thinks that "if it is desired to mellow and sweeten a stiff clay, the later it is plowed the better, in order that the frost may act upon it at once before it is soaked by rain."

Wheat Midge on Clover.—It is generally reported that the wheat midge has attacked the clover heads. I wish to ask the readers of the *Genesee Farmer* if they have noticed the "varmint" in their clover fields. If so they would oblige by reporting their observations through your valuable journal. D.—*Gates.*

NOTES FOR THE MONTH, BY S. W.

This Summer of 1856 may be truly said to be an extra warm and growing one. On the 1st June very few early garden vegetables had begun to take that start, to which a sun warmed soil is indispensable; asparagus, pease and pie-plant always excepted. King Philip corn has proved a good substitute for the later sweet corn: it grows here six feet high; it has more ear, and is a week earlier than most other early corn; methinks farmers might find it valuable for a second planting, or to fill gaps where the first has failed or been destroyed. I take more pains with potatoes and get the poorest returns, and the least pains with beets, carrots and parsnips, and have the best. A rich heavy soil adds monstrously to the weight of beets, while it makes only potato vines. This spring I covered potatoes in the trench with vegetable refuse, but the decomposition has been too imperfect, the monster vines have exhausted the moisture and the tubers are naught; but the yield will be better on the same ground another year. Potatoes want a sandy or gravelly loam, treated with hog manure, or a new, rich, mucky soil, well drained; if planted on old sward, it should be plowed early the previous fall, so as to ensure the necessary decomposition at the right time to feed the tubers.

A Seneca county farmer would laugh at the experiment of that Brighton farmer, who expects a fall crop of turnips after wheat; here on all old soils we get only turnip tops in the fall, the worms take the turnips; but I have some sweet corn, planted after the pea vines were removed, that is now two feet high; it will ear in September, and the stalks will be worth more for a milch cow than all the turnip tops grown on four times the surface. Corn and beets have no enemies that good culture will not evade, and these plants luxuriate in a drought if the soil is well drained and rich; but turnips want a moist climate like England, where Greely says the sun itself "looks like a boiled turnip."

But apropos of corn, the notion that good seed rots if planted early on a well drained soil, is a great fallacy. I this year planted three times over some bright looking eight-rowed yellow corn, got from toll corn at the mill, but it never sprouted; while every kernel of sweet corn of my own growing, planted at the same time, came up; hence the necessity of selecting seed corn from the stalk in the field, and of keeping it on the cob, and in a dry, airy situation. I can tell a slovenly farmer by the miscellaneous appearance of his corn. Some are partial to large cobs and small kernels; methinks they must want the cobs for jug stopples or kindling wood.

I have been trying in vain to make by mixing, the mechanical counterpart of a specimen of Wisconsin prairie soil. Our calcareous clay is scarcely finer, but it is very adhesive, while the prairie soil is ever pulverulent, wet or dry; when I added sand to our clay, it was still an adhesive, mortar like conglomerate, although containing to all appearance more vegetable remains than the prairie specimen; hence I infer that the superior fertility or crop growing power of a prairie soil, is to be referred more to its fine mechanical structure, than to its superior wealth in organic matter. Verily old Jethro Tull was more than half right, when he said that the secret of large crops was in the thorough comminution of the soil.

It seems to be the prevailing opinion among farmers that the wheat midge, like the Hessian fly, has seen its best days in our region. Perhaps it has been starved out by the general practice of growing the early Mediterranean wheat; there can be little doubt but that plowing in the wheat stubble deeply where the insect has prevailed, puts the germ *hors du combat* for the next year. The thorough destruction of the insect enemies of plants is the true remedy for their mischief, if it can be compassed. The large brown squash bug, and the smaller cucumber bug, will cease to be a pest in any garden where half an hour a day is devoted to their destruction, after their first appearance. Should a few eggs be deposited on the under side of a large leaf, take out the part with the eggs, and the next year you will have no bugs. It is much more difficult to distance the enemies of fruit trees; while our pear trees are struck with blight, cherries are stung, and our sweet bough apples fall off wormy, the poor peach tree, young and old, is attacked root and branch; and if the plumb tree can be saved by the knife from the blight of the black knot, its fruit is still punctured and destroyed; twenty years ago this fruit was as free from enemies as our grapes, raspberries and currants are now!

Here is a man—call him not a farmer—who has twenty acres of meadow to cut, thus late in the season. His argument for late cutting is that labor is cheaper, and it is so dry that it needs no curing either in the cock or by spreading; he cuts and loads it directly for the stack or barn. I did not see the man's cows, but his horses looked as though they belonged to a cooper who fed them on hoop poles. If such a man was tried by a jury of his cows, his fate would be hopeless. S. W.—*Waterloo, August* 10, 1856.

Bearded Varieties of Wheat.—The future of wheat raising, owing to that great pest the midge, like "the star of empire," points westward, yet we may raise sufficient for family use by sowing the Hutchinson, or some other bearded variety, as the "varmints" seem to avoid all bearded varieties, or at least they infest them much less than the bald varieties. It is well attested, that there is very little loss from the midge in the bearded kinds of wheat; therefore I think your numerous readers will do well to look at this matter, for the old flint, and other varieties of bald wheat in this vicinity, are very nearly a total loss, while the bearded will afford a tolerable yield of good plump wheat. I have examined several fields in this immediate neighborhood, and find in fields of bald wheat, from one to five insects on nearly every grain, while in the bearded, in several instances, I did not find a single "creetur," and very few in any case. If any of your subscribers have observed the habits of the midge enough to give any light on this subject, they will confer a favor on a multitude by communicating the same through the *Genesee Farmer*. D.—*Gates, Monroe Co., N. Y.*

Wood Land Pastures—Are they Profitable? There are those who think not, for these reasons: The grass and shrubs which grow in the shade of a forest are comparatively innutritious; the droppings of flocks pastured in such places are lost to the present generation; the cost of keeping in repair a long range of fences is greatly disproportioned to the value of the return in pasture on such fields. What is the experience of our readers?

CHEESE-MAKING FROM A FEW COWS.

MESSRS. EDITORS:—I have read your article on the "Manufacture of Cheese," in the July number, with much interest; but the directions given are adapted rather for large than small dairies. I keep four cows and wish to make a little cheese for the use of our family, and should be glad if you would give a few directions for my guidance. By so doing you will oblige at least one of your readers.

Seneca Co., N. Y. A FARMER'S WIFE.

We should be glad if some of our readers would answer the above inquiry. In the meantime we offer a few hasty hints which we hope may be of use to our correspondent.

The difference between making cheese from a small and from a large dairy, consists principally in this. In a large dairy the curd is made into a cheese every day, while in the small dairy the curd—obtained precisely as in the large dairy—is slightly pressed and laid by in a cool place till a sufficient quantity is obtained for making a cheese as large as desired.

The night's milk should be kept as cool as possible, and the next morning placed in a tub, together with the morning's milk, and the whole, by adding a portion of heated milk, raised to about 85° Fahr. The rennet is then added, the milk well stirred, and afterwards let alone till the curd is well come. The time this occupies varies from fifteen minutes to two hours, according to the amount of rennet, temperature, &c. —the warmer it is put together, and the more rennet there is added, the quicker will the cheese come. As a general rule the longer it is in coming, the tenderer and sweeter will be the curd. We should seldom desire it to come sooner than forty minutes after the rennet is added.

When the curd is come, it is broken up quite fine either by hand, or by a curd breaker, which cuts it into very small pieces. After this it is allowed to stand and settle. Some persons at this stage raise the temperature of the whey and curd up to 95° or 100°. This is called "scalding." The practice has its advantages and disadvantages. If the milk is warm enough when the rennet is added, it may be dispensed with; if too cool it may be required. If it is desired to sell the cheese when a month or six weeks old, high scalding is indispensable, but in making good cheese for home use, we should scald very little, if at all.

The curd is easily separated from the whey by throwing the whole into a seive or on to a cheese cloth. The curd is then placed in a strong cloth, and well pressed to remove as much of the whey as possible. This is very important. It is then placed in a cool place, and the operation repeated daily—or every other day, if the milk will keep sweet, as it will in a cool cellar in the fall.

When sufficient curd is obtained in this way to make a cheese of the desired size, it is all mixed together, broken quite fine, and salted. It must then be pressed for a few hours; a clean dry cloth put round it, inverted, and pressed again. At first it should not have too heavy a pressure put on it, but it cannot be pressed too dry. It should have dry cloths put round it and be kept under the press till it does not wet them. Many will object to so much pressure, but we speak from experience and with much confidence on this point. Less scalding, and more pressure would, in our opinion, add greatly to the *real* value, and cheese-like flavor; though perhaps not to the buttery appearance and *saleable* qualities of most American cheese.

When the cheese is taken from the press it should have a little salt put on it, and be kept in the dairy, or other cool moist place for a few days. It may then be taken to a dry room, where for the first week or two it must be turned every day, or the side next the floor will mould. The room should be well ventilated, and nearly dark.

CLAY, A VALUABLE PAINT.—A correspondent of the *Country Gentleman* gives the following recipe for making a cheap and valuable paint for buildings:

"Take common clay, (the same that our common bricks are made of,) dry, pulverize, and run it through a sieve, and mix with linseed oil. You then have a first rate fire-proof paint, of a delicate drab color. Put it on as thick as practicable.

If any one has doubts with regard to the above, just try it on a small scale—paint a shingle for instance and let it dry. Recollect that it must be mixed thicker than common paints.

The clay, when first dug, will be wet or damp, but will soon dry, spread in the air under a shelter, or, if wanted immediately, it may be dried in a kettle over a fire. When dry it will be in lumps, &c., and can be pulverized by placing an iron kettle a few inches in the ground, containing the clay, and pounding it with the end of a billet of hard wood, 3 inches in diameter, 3 feet long, the lower end to be a little rounded, &c. Then sift it. Any clay will make paint, but the colors may differ, which can easily be ascertained by trying them on a small scale as above indicated. By burning the clay slightly you will get a light red, and the greater the heat you subject it to the brighter or deeper the red."

EFFECTS OF IRRIGATION.—MR. ARTHUR YOUNG, in his "Travels in France," vol. 2, p. 171, has the following:

"PROVENCE—*Avignon.*—Irrigation is here carried on in great perfection, by means of the waters of the river Durance and the Crillon canal, made only for the purposes of watering. The meadows are mown thrice a year, producing from 30 quintals of hay, at 40s. to 60s. the quintal, on each eymena of 21,600 feet (7 ton 14 cwt. per acre) at three cuts. Such meadows sell near the town for 1000 liv. ($382.00) per acre; further from it, 800 liv. ($306.00) per acre. If the season is dry, they are watered every twelve days; but in a moist time, once in three or four weeks. In some cases, they begin with turbid water, and finish with what is clear to clean the crop. Never water their corn at all, but in extraordinary droughts."

FRENCH CLOVER.—We have a plat of Lucerne, or French clover growing this summer, (sown last year,) which is very luxuriant, and which answers an excellent purpose as a green fodder to feed out to our stable horse occasionally, or to our cows as their morning repast, before being driven to pasture. We began to cut it when it stood eight or ten inches high, when common grass was hardly advanced enough for sheep to clip, and have gone over the ground twice or thrice the present season. We have no doubt we can cut it yet twice more before winter. It requires rich land, and had better, we think, be sown on sandy loam, as it is in danger of being frost-hoven and winter-killed. Ours is sown and cultivated in drills. It has been in the ground but one winter, but it has stood that with perfect triumph.—*Rural Intelligencer.*

VALUE OF CORN COBS.—Shell all your corn before you sell it, and *crush the cobs for cattle feed;* when crushed, cooked, and mixed with cut hay or straw, 4 bushels are worth as much as 2 bushels of grain, and make most ex ? llent messes for milch cows, or working oxen.—*Exchange Paper.*

In the Eastern States, where corn and all kinds of cattle food command high prices, there can be little doubt that it pays to grind the cob with the corn without shelling. In the large Rochester mills, the charge for grinding a bushel of shelled corn is five cents; for grinding two bushels of corn in the ear, (equal to a bushel of shelled corn) eight cents. Estimating that the two bushels of ears weigh 80 lbs., and the bushel of shelled corn obtained from them to weigh 60 lbs., we pay three cents for grinding 20 lbs. of cobs, or $3 per ton. It must be remembered, too, that we save the expense, and the loss of corn, of shelling. Corn-cobs are not very nutritious—equal to the best wheat straw—but in this neighborhood, at least, when ground, they are well worth $3 per ton. There is, however, no such advantage in grinding cobs as the writer we have quoted would lead us to believe. He says four bushels of ground cobs are worth as much as two bushels of grain. This is a great mistake. Four bushels of cobs, at most, would not weigh more than 80 lbs., while the two bushels of corn would weigh 120 lbs., and no one can for a moment suppose a pound of cobs, cooked or ground, or messed up how you will, can possibly afford as much nutriment as a pound of corn.

The practice of grinding corn *in the ear,* where cattle food is high and scarce, is a profitable one, and there is no necessity for making such extravagant statements in regard to it. If those who write for the agricultural press would keep within bounds, there would be far less prejudice against book farming.

THE CULTIVATION OF WHEAT.

As another harvest is gathered, the farmers of New-York again have an opportunity to judge of the products and value of the different varieties of wheat sown in the fall. Fearing the depredations of the midge, many have sown the Mediterranean variety, believing that its long beards and early maturing would prevent the working of that insect. The long beard is useless, however, and the early maturing is its only protection from these depredations. Taking into consideration the quality of the grain, and the yield per acre, it will not be advisable to sow the Mediterranean wheat, if two-thirds of a crop can be obtained from the White Flint or Soles variety. It is for the interest of the farmers of Western New-York to furnish the millers with wheat which will make the best quality of flour made in any quarter of the globe. If they should cease growing the choice varieties, the loss would be greater than that occasioned by the midge.

To guard against the midge and the Hessian Fly, much attention should be paid to the preparation of the soil and the time of sowing. If we sow before the fifth of September, the wheat is liable to be injured by the Hessian Fly, and if we sow after that date, the midge is to be feared, for, other things being equal, the earliest sown is the earliest matured. Much also depends on sowing seed that was fully matured before being gathered, and wheat cut when it will make the most and the best flour is not fit to sow. Wheat which is fully ripe when cut is preferable for sowing, as it has proved to be more hardy and not so liable to be injured by the fly.

The farmer who believes that wheat will turn to chess, and yet sows wheat that contains chess, injures himself as well as the miller, for chess wheat will not make superior flour. No wheat should be sown which has other seeds mixed with it, as it will take years to clear them from the land. If those who believe in the change from wheat to chess, will sow nothing but pure wheat, they will in time clear their lands of chess. When once introduced, however, it will take several years with the closest attention to disperse it; for it ripens early, and mixes with the wheat in cutting, and produces another growth. Farmers should be careful to frequently change their seed wheat. If they procure it from a distance, and from different soils, the improvenent in their crops will compensate them for their trouble and expense. I have found some new varieties do well in favorable seasons, but when the grounds were bare most of the winter, there would be almost a total failure. Most of the varieties from Europe are later in ripening, and not hardy. R. HARMON, *in N. Y. Chronicle.*

THE EXHIBITION OF THE ROYAL AG. SOCIETY.

THE Fair of the Royal Agricultural Society of England, held at Chelmsford, in Essex, is said to have been one of the best ever held by the Society. We have received full reports in our foreign exchanges, and will endeavor to give a few extracts that may not prove uninteresting to our readers.

IMPLEMENTS.—"We do not remember," says the *Mark Lane Express* of July 20th, "ever seeing so complete an exhibition of implements, and one that was disparaged by so few useless toys that tend only to display ingenuity of design and engineering skill, but of no practical utility to the farmer." The Society offered a prize of five hundred pounds ($2,500) for "an economical substitute for the plow and spade." Several steam plows were entered for trial, and the results were highly satisfactory. The prize has been claimed, and the *Express* remarks: "however much the judges or the Society may hesitate, popular opinion has gone far to award it." The work is said to have been "beautifully done." The men in command had perfect control of the steam horses, and started, guided and turned them with ease. One of the steam plows exhibited was purchased by Mr. CRAMP, of Witham, Essex, who proposes to let it out, like the threshing machine, for the use of his tenants and neighbors.

Howard's Prize Plow, so successful at the Paris Exhibition, and a cut of which we gave last month, was also awarded the highest premium at Chelmsford.

The trials of Reaping Machines on a field of rye were not satisfactory, and the award is deferred till harvest.

Chambers' Liquid Manure Drill gave great satisfaction. It is somewhat on the same principle as Chandler's, only that the liquid falls by a drop instead of in a stream. It is said to be "a great advance of anything of the sort yet invented."

EXHIBITION OF STOCK.—"If," says the *Express,* "we can speak in high terms of the display of implements, we may say as much or yet more for the show of stock. When the turn of the latter did come, they certainly had the call. The freshest of visitors could scarcely resist diving at once through the many famous stands of machinery, intent above all things else to get a glimpse of the famous Short-horn bull—

of the Southdown that had beaten Jonas Webb—or for a long look at such a range of Suffolk horses as no man ever saw before."

SHORT-HORNS.—The Short-horns were not numerically so strong as at some former exhibitions. "There was no mistake, however, about the excellence of some of them. Lord Feversham's prize bull, for instance—Gloucester—which took the first prize at Paris last year and the second at Carlisle, was only here a commended animal. One might so look for something extraordinary to stand so far before him. And such is the case. For shape and quality—a fine, full, but compact frame, a head that shows the highest breeding, and a touch that tells it still more, we at least, in our time, have never seen so near an approach to a perfect animal as 'Master Butterfly' now is." This bull, bred by Mr. TOWNELEY, was sold for the unprecedented price of *twelve hundred guineas!* ($6,048). He goes to Australia. Mr. AMBLER'S prize bull calf was sold for ore thousand dollars. "Indeed," exclaims the *Express* in chronicling these sales, "the run upon this stock (short-horn)—what with France, Australia and America to compete for it, is more extraordinary than ever. At Chelmsford the supply by no means equalled the demand."

HEREFORDS.—With two exceptions, the Herefords exceeded in numbers those of any exhibition of the Society during the last ten years. Lord Berwick's 3 year old Bull Napoleon III., took the first prize of £30. He is not long in frame, but amazingly deep; his chest and all along his underneath parts, exceedingly good; his flank very full, deep and low; his chine and girth great and good; back a little amiss; hips are fair, wide and good; his legs short. The quality of flesh and softness of skin quite first-rate.

The first prize for "Cows in Milk or in Calf" was awarded to Mr. PERRY, for a very beautiful animal; her frame uniform and good throughout, twist and thighs alone defective. Her brisket good, and milk veins denote a first-class milker; her chine and ribs are all you can wish for, in her frame; shoulders well out, hips just right, her countenance mild and docile. She is not large, nor does she stand high, but very complete.

On the whole, the Herefords were never better represented.

DEVONS.—In this class Mr. QUARTLY, so justly celebrated as a breeder of Devons, takes the first prize of £30 for his bull "Sultan," 3 years and 4 months old. This bull is almost a perfect cylinder. He is a remarkably compact and well-formed animal, of very superior quality; short legs, great in girth, capital fore-quarter, a very level back, and very uniform in his proportions and color; his hips and tuts are too narrow, and tail stands high. We always think this a fault in the Devon breed.

In the Class of 2 year old Bulls, His Royal Highness Prince Albert took the first prize of £25. The *Express* well remarks:

"It always rejoices us to see our princes and nobles entering the lists as general competitors in the mos laudable endeavor to promote a nation's wealth and the advancement of agriculture. In this peaceful rivalry prince, peer and peasant meet upon common ground, and take their stand and chance with the band of exhibitors; and without favor or fear are the adjudications given, in the most perfect spirit of fairness, and in exact accordance with the merit of the animals exhibited. The peasant has as good a chance, personally, as the prince. Woe to the Society were it otherwise! We are glad to see that the Prince has reaped rural honors again, by the award of the first prize of £25. This is a first-class animal. His countenance is very mild and pleasing; his chest, brisket, flank, and underparts excellent; his hips, loin, thighs, tuts, and twist are all good, and full; his back straight and level; perhaps his chine is too narrow, and his horns are wide; but he possesses beautifully symmetrical proportions, and is of first-rate quality of flesh and softness of skin."

In the Class of Cows in Calf or in Milk, the first prize of £20 was awarded to JAMES QUARTLY, of Molland, for his cow "Stately." "She is" says the *Express*, "exceedingly beautiful, and possesses the best quality of meat we have yet seen in the yard. Her frame is very symmetrical, and true in form, and her offal remarkably fine; her only fault is in being somewhat too small, but still a superb animal, taking her altogether." The Class was very superior.

HORSES.—The average number of horses exhibited at the annual shows since 1847, is 96. This year there was 196! In proportion to the extent of the show, so was its excellence. "We never saw," says the *Express*, "at any time, such a noble gathering of noble animals." The Suffolks mustered in great force, and the second prize for Stallions for Agricultural purposes was awarded to one from Mr. CATLIN'S stock. This is a good specimen of its class. Here is strength enough, size enough, and activity enough for any work. The fine expressive head, characteristic of Mr. CATLIN'S blood, is here fully developed. This is the peculiar seal that seems to distinguish all the members of this family. (We gave an excellent likeness of one of Mr. CATLIN'S prize Suffolk horses in the March number.) The first prize was given to a Clydesdale horse exhibited by Prince Albert. The award is said to have given very general *dissatisfaction.*

In the Class of two year old Stallions for Agricultural Purposes, the first prize was awarded to a Suffolk Horse belonging to Mr. SEXTON. He has a strain of the Catlin blood; and is thus described by the *Mark-Lane Express:*

"He stands like a tower of strength. The union of the neck and shoulder is admirable. His barrel is well turned, rib not too deep, his bone is fine and flat, and his legs clean; indeed he presents a living testimony to the fact that bone and flesh do not constitute strength. The breeder here seems to have succeeded in establishing the advantage that lies in reducing the size of useless parts, and in getting rid of unnecessary appendages. Huge bulk must be reduced before symmetry and compactness can be acquired, it being an invariable law that bulk is attended with a corresponding degree of coarseness. This practice must not be carried too far. The object of the breeder should and must be to retain a certain size in the animal, and to impart to that size the necessary muscle and spirit."

EXHIBITION OF SHEEP.—SOUTH-DOWNS.—For a few years past, the celebrated South-Down breeder, JONAS WEBB, has not exhibited his sheep at any of the Fairs. This year he has again entered the field. At the Paris exhibition he carried all before him. At Chelmsford, to the surprise of every one, his Paris prize yearling ram *came off second best.* The *Mark-Lane Express* remarks:

"The first prize was awarded to Mr. Overman, and considerable discussion has been raised upon the decision of the judges, exciting no ordinary interest

throughout the show-yard. The fact that "Jonas Webb" was beaten in competition was sufficient to rouse the greatest interest among the South-Down breeders, so that a very large amount of criticism was expended upon the rival animals, especially as Mr. Webb's shearling was the prize sheep of the Paris show, and had been refused to a purchaser (we were told) at the large sum of 500 gs. ($2,500!) Mr. H. Overman, the successful competitor, is a celebrated breeder in Norfolk; and, waiving any doubt as to the decision of the judges, we rejoice much at his present success, his ram being a very superior animal. Mr. Overman's flock has not been surpassed for many years, for wool and substance. The Chelmsford prize shearling is quite in character, having a large well-formed frame, with capital bosom, good flank, thighs, and good neck, and yielded a large fleece of 10 lbs. But still we thought him hardly so handsome or symmetrical as Mr. Webb's shearling, which received the second prize: his general frame and proportions were barely so good, and his back not so even; while in quality of flesh and wool he is inferior. Perhaps still Mr. Overman's would be preferred by the public."

The first and second prizes for "Rams of any other age" (but yearlings), were awarded to Lord Walsingham, who also took the first and second prize for the best pens of shearling ewes. The *Express* says:

"Lord Walsingham's first prize ewes are large, wide and of very beautiful quality, having fine bone, and being exceedingly level in character.

"His Lordship's second prize ewes are very good, symmetrical and beautiful. These lots were sold, one to the French Government and the other to an American gentleman, at 20 and 17 guineas each respectively."

On the whole, the exhibition of South-Downs was the largest (except at London in 1851, the "Exhibition year,") and best ever made by the Society.

Leicesters.—The show of Leicesters was meagre. The average number exhibited for the past nine years was 97: this year only 60 animals were shown. The character of the sheep, too, indicate little improvement. There were too many reminding one of the witty definition that a "Leicester sheep is like a soda-bottle on legs," the neck being too lank, the rumps narrowing off, and the general conformation being deficient in breadth, depth, and compactness of symmetry.

Long Wooled Sheep.—The show of Cotswolds was in number considerably above an average, and of surpassing merit. Mr. Walker's first prize shearling is said to be of "wonderful size, beautiful symmetry, and fair offal; and has a splendid fore-quarters, flank, loin, and rump."

Exhibition of Pigs.—The show of pigs was large and good. "The small breeds were never excelled, taking them collectively, and the large breed classes produced were astonishing animals."

Large Breed.—The first prize of £10 was awarded to the Rev. C. T. James, of Ermington, Devon, and the second to J. Harrison, Jr., of Stockport. The *Express* says:

"The Rev. C. T. James 1st prize boar was much admired. He stands upon short legs, is very thick in form, and broad in frame throughout, excellent in quality for a pig so large, his rump good, but a trifle too low. We seldom see a much better pig, so much weight and good flesh combined, and quite in character with his designated breed.

"Mr. Harrison's 2d prize boar was greatly admired; he partakes of the small breed in his general character and form, but is of tremendous size and substance; his frame is good, his neck, chine, back, and loin broad, full, and wide throughout, head and ears short, the latter pricking, chaps good and fat, tail too low, stands rather narrow."

The first prize of £10, for the best breeding sow of a Large Breed, was awarded to W. B. Wainman of Carhead, Yorkshire. "This is a very large animal, and highly proportionate for her size; she is 6 ft. 5½ in. in length; her frame is very deep; her back is level and broad—indeed, well and broadly-formed throughout; her tail too low; quality good; she is the daughter of No. 603, standing—or rather lying, for she cannot stand—in the adjoining pen. This sow (603) is a very remarkable animal, and is the second prize sow at the Carlisle meeting. Her head is short and comparatively fine; her length is astonishing, and her general proportions are good; her weight at Carlisle was 9½ cwt. She has taken ten first prizes, and is now on her return from Paris, accompanied by her ten sucklers. We understood she could not be got up for the judges's inspection.'

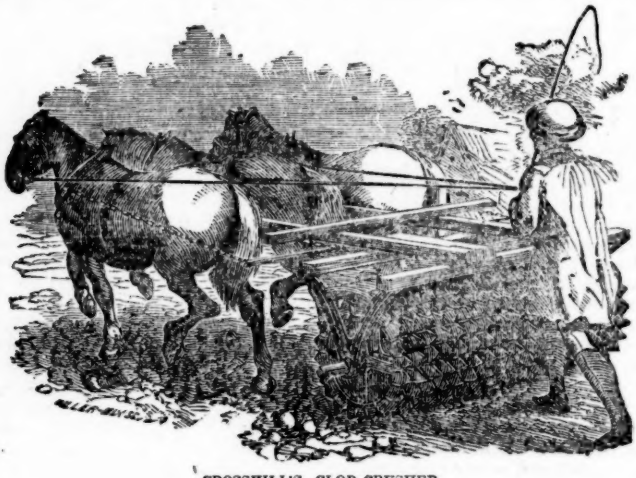
Small Breed.—The first prize for "Boars of a Small Breed" was given to Thomas Crisp, of Woodbridge, Suffolk, for a very superior animal, entirely black, his head short and fine, ears short, thin, and nicely pricky and pointing forward, his chaps full, neck short and fat, chine, back, and loin very broad and level, his frame very deep, and legs short, tail and rump more up and even with back than in most breeds, his hair thin and not too soft, offal fine, and quality of flesh exceedingly good.

The first prize for "Breeding Sows of a Small Breed" was awarded to H. S. Hayward, of Willington, Suffolk, for a very complete and compact animal, of exceedingly good quality of flesh. Her ears are remarkably thin and pretty, snout short, chaps full, neck good; chine, back, and loin broad and full; a very handsome frame, on short legs; tail not quite high enough. Sold for 35 guineas.

Machinery for Husking Corn.—The *Scientific American* thinks there is a good chance for a fortune resulting to the inventor who shall be so fortunate as to invent a successful machine for "husking" corn. It says:

"The annual production of Indian corn is six hundred millions of bushels, nearly all of which is shelled by machinery; but the husking is done by hand. The expense of husking is estimated at five cents a bushel, or $3,000,000 a year! No less than 120 different patents have been granted for shellers; but for huskers only four patents have ever been issued, two of which have long since expired. Not one of them is sufficiently practicable, we believe, to meet the wants of the community. Corn huskers are very much needed on every farm throughout the land. Here is a splendid opportunity for inventors, and we hope they will not be slow to improve it. The patent for a first rate husking machine will be worth a fortune."

How to Catch Hawks.—Erect a pole 12 or 15 feet high, in a place where there will not be anything else near for them to light upon, and upon it set a common fox trap, on which they will alight. A strong rat trap will answer the purpose, by tying it on the pole lengthwise, with the jaws raised above the end, the pole being a little leaning, so that the jaws will not fall together. When one hawk is taken, tie it on the ground near the pole, and its mate will be in the trap in a short time.



CROSSKILL'S CLOD-CRUSHER.

CROSSKILL'S CLOD-CRUSHER.

We consider Crosskill's Clod-Crusher one of the best agricultural implements of modern invention. We have repeatedly urged its merits on the attention of our readers, and we are glad to find from the last *Southern Planter*, an excellent agricultural paper, edited by Frank G. Ruffin, Esq., and published at Richmond, Virginia, that it has been introduced on to several plantations in the "Old Dominion" with great success. Mr. R. says: "We have had this important English implement [Crosskill's Clod-Crusher] in use for nearly two years, and can testify experimentally to its great utility, and, economically considered, to its necessity to many farmers in Virginia." After answering the objections to its general introduction on account of its high price, (in England it costs about $90,) Mr. R. remarks:

"Among implements which may be called really great inventions, Crosskill's Clod-Crusher is entitled to a high place. Its name is its best description as its performance is its highest eulogy. It does not pulverize clods, though there is as much resulting dust and fine soil as from the action of the best harrow; but it reduces them, the largest and hardest, without difficulty, into minute and manageable fragments, leaving the harrow, in this respect, completely in the shade. Indeed, it accomplishes at one traverse, what the harrow can never accomplish at all, as the following description will prove:

"It is a roller six feet long and thirty inches in diameter, weighing about two thousand pounds. But unlike most rollers, which are either a solid cylinder, or, at most, a cylinder in two or three sections on the same axle, this implement is composed of twenty-three independent serrated wheels of cast iron—the teeth standing out like cogs, but reduced to an obtuse cone or boss at the point—'supported on four feathered arms'—each alternate wheel of some three inches less diameter than the others—with an eye formed in the center fitted to move easily on the common axle. But the eye of the larger wheels is expanded to such a size as to give them a play of several inches on the axle, which is guarded at such points by a revolving collar, fitted to catch the wheels as they descend. Perpendicular to the angle of each tooth, on both faces of the wheel, is a small cast iron wedge or flange, which, as the clod breaks, drops down on it, and splits and mashes it into smaller fragments. With its weight and momentum, its cones and wedges, its vertical play of the larger wheels, and lateral play of all, it is evident that it must be a powerful implement, and capable of reducing the most intractable clods.

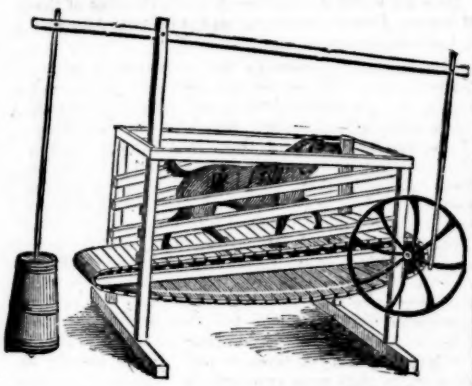
"The common roller, if it does not crush the clods at once, presses them into the ground, where they lie unbroken, and affording no soil for the plants around them to feed in, or are again dragged up by the harrow; or, in very hard clods, it bounces from one to another, breaking only those that it strikes with some impact.

"The harrow frequently passes by or over clods, and even when the largest are broken, which is by no means universal, their fragments become rounded by attrition with the harrow teeth, or with each other, and further harrowing is useless as to them, and pernicious as to the soil.

"The implement in question does neither. If a clod is pressed into the ground it is just in the best position to be crushed; and so far from slipping away from it, clods are frequently caught between the surfaces of the wheels, lifted up and ground to powder—in this way we have more than once seen a broom-straw tussock completely ginned of the indurated dirt that enclosed the roots—the whole surface is reduced to a mass of dust, fine dirt, and clods about the size of a hen's egg or less, and left just in the best condition to receive the seed, and allow of the best action of the covering harrow. The track of the machine presents much the appearance of sheep tracks over a mellow surface.

"It thus combines the action of the roller and harrow into one implement, and performs at one working what both of them often fail altogether to accomplish, and never succeed entirely in doing."

We have no doubt that it would pay any of our agricultural implement makers to manufacture this Clod-Crusher. There is, indeed, an implement made in this country having a serrated surface, but it is a solid body and cannot be as efficient as the one above represented.



DOG POWER FOR CHURNING.

Messrs. Editors.—I have heard that there is in the States, a kind of churn which is worked by a dog or sheep. Do you know anything about it? If so, you would oblige me much by giving a description of it. A Canadian Farmer.

Pelham, C. W., Aug. 18, 1856.

The accompanying engraving will convey a more definite idea of the dog-power churn than the most elaborate "description." The principle of its construction, is the same as that of the endless chain horse-power. We believe, however, that instead of a chain, India rubber bands are used. Of course, any kind of churn can be attached to the power, but the best, in our opinion, is the old-fashioned dasher churn. In fact, notwithstandidg the thousand and one inventions that have been patented, it is very questionable if we have any better churn than the dasher. It is true that the labor of churning is far greater than with many other churns; but this arises from the disadvantageous position of the churner, and not from the churn requiring a greater amount of force to work it. When worked by a crank, the labor is far less fatiguing. Attached to a dog-power, as shown in the engraving, it works easily, and we believe in every way satisfactorily.

We should like to hear from those who have tried the dog-power churn.

Watering Troughs.—A correspondent of the *Prairie Farmer* recommends large iron kettles for watering troughs. He says he has used them some years for that purpose, and considers no "other trough fit for watering cattle." He also recommends small kettles of a spider or skillet form, to be set round to feed or water a standing horse in, or an occasional pig or two; and says that "if farmers would purchase a few of these kettles of different sizes for such uses, to stand about the place, they would find them the best and cheapest utensils, in the long run, they could obtain, and it would save them the trouble of running all over the neighborhood to borrow, every time they killed hogs or made soap."

Whitewash for Fences.—One ounce white vitriol, (sulphate of zinc,) and three ounces of common salt, to every three or four pounds of good fresh lime, it is said, will render it very durable when exposed to the weather.

Sowing Wheat on Clover Sod.—In one of the back volumes of the *Ohio Cultivator*, (vol. 2, page 175,) an experienced farmer, "as the result of repeated experiments," recommends the following mode of preparing clover sod for wheat. We should like to hear from any of our readers who have tried this plan. In this region, unless the land is very clean, we should stand a chance to get more grass than either wheat or clover:

"If I had a good clover sod, (not blue grass,) I would not feed a man and his horses to plow it more than once for me. My mode is, to mow the first crop of clover, then let the second crop grow up, and about one-third of it get ripe; then plow it in and sow the wheat immediately. In plowing, I do not want my ground 'cut and covered,' but *all* of it stirred. By this mode of turning in half-ripened clover, I have my ground well seeded with clover—better than where I have sown the seed in the spring. I cannot be persuaded to plow ground before harvest, and then stir it several times before seeding. Even if the crop of wheat may be better, I believe it is injurious to the ground."

Wheat on Oat Stubble.—An experienced farmer says he has had very good wheat after oats by adopting the following mode or rotation of crops: Manure corn ground well in the spring—which he believes is the best time to apply manure—plow it in deep; work the corn shallow, so as not to disturb the manure; plow shallow the next spring for oats; and in the fall plow deep, so as to bring up the manure, (which has now become fully rotten,) for wheat. If the oat stubble is thick enough and dry enough, burn it off; which will make the ground in first rate order for plowing, and kills the seeds of noxious weeds. If the seeds of weeds get in with the manure by putting it on the corn ground, there is a better chance of killing them than when plowed in with stubble for a crop of grain.

Raise your own Seed.—As our beautiful Genesee country is fast becoming disfigured by Canada thistles, white daisies, and other weeds, we must, each farmer for himself, raise his own grass seed, which all may do with considerable saving, if not profit. Let every farmer mow off in June a patch of clover sufficient to grow the quantity of seed he may require, (counting five bushels from an acre so mowed,) for the next year's seeding; also a piece of timothy of fair growth, and clean from any of the pests that are becoming so very prevalent in many of our fields. By these precautions—and taking some pains to extirpate those we have already got—we shall soon be wholly rid of them—a matter to be devoutly desired. D.—*Gates.*

An Easy Method of Making Cream Cheese.—Take a quart of cream, or if not desired *very* rich, add 1 pint of new milk; warm it in hot water until it is about the heat of milk from the cow. Add a table-spoonful of rennet, let it stand till thick, then break it slightly with a spoon, and place it in a frame 8 inches square and four inches deep, in which previously put a fine canvass cloth; press it slightly with a weight, let it stand 12 hours, then put a finer cloth in the frame—a little powdered salt should be put over the cloth. It will be fit for use in a day or two.

Warts on Horses.—Muriatic acid, applied daily with a feather, is a safe and speedy remedy.

AN INTERESTING LETTER FROM MR. JOHNSTON.

NEAR GENEVA, 20th Aug., 1856.

MR. HARRIS:—Dear Sir: Your favor of the 18th is before me. In answer, I would say that the 25¼ acres in wheat adjoining my dwelling gave 847 bushels of wheat, (33½ bushels per acre.) Had it not been for midge, I think it very probable there would have been from 150 to 200 bushels more. I never saw such a display of shocks before.

On the swale, that was entirely prostrated some time before you were here, I was surprised to find the wheat equally as good in quality as any of the upland. Owing to being later in ripening, the straw was still green when we cut it—at the same time we cut the upland; but when the wheat got hard, it was certainly of as good quality as the upland, and, if anything, better, being very thin in the bran and very clear. This shows that *early cutting* makes the best samples.

You would have been surprised to have seen the wheat that grew on the top of the ditches on the low land. The mixing of the subsoil with the surface soil made the straw so stiff that it did not lodge, but was *leaning*, and I never saw such good ears of wheat in my life. One of the ditches through the swale was ninety-six rods long, two feet wide, and over three feet deep on an average. I had, therefore, every chance to see the result of the crop there. You could stand at one end of the drain, and see the difference in the wheat all the way to the other. It was much earlier, and the ears very large.

I have very little doubt but that there is some four or five acres of this swale, that would pay to trench two feet deep; or otherwise draw on some four or five inches of gravel or clay before sowing the wheat. If I live and have good health, I think I shall try one or the other of these plans. I have very little more draining to do, and may as well try something else!

I hear great complaints of the yield of wheat on all the undrained land, while on the drained land the crops are very good—at least all that was sown in good season. *Wheat must be sown from the 5th to the 15th of September, to secure paying crops in these midge times.*

My corn is in the same field as when you saw it last year. Although the stalks are not so long, yet I think it will yield as well as last year. But there is a great deal of poor corn in the country. Oats around here are good. Barley, they say, does not yield well on threshing. My potatoes are very fine. I have not heard how they are in general. Drained land is fine for *murphys*. I remain yours truly.

JOHN JOHNSTON.

CURE FOR LOCKJAW IN HORSES.—Bleed the horse in the third bar of the mouth, and drench with strong salt water. This method has been known to be successful when all others have failed.

POSTS last a vast deal longer in wet soils than in dry, sandy loams—longer in clay than in the richest soil. In peat meadows, the bottom of the posts hold out longer than the tops and the rails.

SOOT contains considerable ammonia, and the late Prof. ANDERSON says that it does not benefit the clover plant, while for wheat, timothy and other cereals, it is found most valuable.

HOW TO HARVEST CORN.—A correspondent of the *Michigan Farmer* recommends the following method of harvesting corn:

"Let the corn remain on the stalk until it is dry and fit for the crib. Enter the field with horses and wagon, straddle every fifth row, with a man on each side and a boy in the rear. Break off the ears as rapidly as possible, throwing them into the wagon; this saves carrying or handling over, not being particular about taking off all the husks; secure your corn in any convenient place until winter; a pen of rails will answer. The husks that remain will keep the corn from spoiling in the crib. When you wish to market your corn, put it on a floor, thresh with horses, the husks will not be in the way, rake off, run through a mill, and your corn will be bright and clean, and in first rate condition. Two men and a boy can pick up and crib two hundred and fifty bushels of ears in a day.

"My opinion is, if farmers will adhere strictly to these rules, they may save half their labor, and have better crops. This is quite an item. Try it."

SALT AND LIME FOR HAY.—In the forthcoming *Transactions of the New-York State Agricultural Society*, L. D. CLIFF, of Putnam Co., N. Y., says:

"I have used, for several years, the following preparation for my hay: *Two parts of slacked or quick lime to one of salt.* The salt to be mixed with the lime until entirely dissolved and the mass becomes a powder. Upon a load or ton of hay, at intervals in mowing or stacking, use from ten to fifteen quarts, dusted evenly over the hay. I formerly used salt alone, but the men would often use too much, so that it was injurious to the stock. The above mixture obviates this—it corrects the acidity and sourness of the hay, and I do not recollect a sick animal since I commenced its use. Horses troubled with the heaves are greatly relieved by feeding upon hay thus prepared, and I am satisfied it is a preventive of the heaves. My horses are kept in the stable the year round, well groomed, and they do far more work and wear longer than when suffered to run during the summer."

TO CLEAN CHESS OUT OF SEED WHEAT.—The *Southern Farmer* copies the article on this subject from the last *Genesee Farmer*, and remarks:

"We can fully certify to the efficiency of the mode recommended in the preceding article for cleaning the land of cheat. We practised it more than twenty years ago, preparing the seed exactly in the manner now described, and with entire success. Like many other of our brother farmers who too hastily jump to conclusions, we entertained the opinion for a while that wheat was transformed to cheat; but with the use of *clean seed* our crops were purged of the pest. And so, there can be no doubt, would be the experience of every farmer, if he would adopt the same plan. The result would be attended with a double advantage—he would reap clean merchantable wheat, commanding the best prices in the market; and he would establish to his own satisfaction that wheat will not and cannot degenerate to cheat.

SHEEP DISTEMPER.—An experienced correspondent of the *Country Gentleman* furnishes the following:

"I some time since had a distemper among my sheep that no one could account for. They would begin to stagger, and within an hour or two would die. As soon as moved, there would be a loathsome and bad smelling yellow water run from their noses, which soon became intolerable. I put tar on stones (which were plenty there,) and then put plenty of salt on to the tar, which cured them completely after eating it."

Treatment of a Contrary Horse.—When a horse gets in a way of being contrary, and will not go forward at all, it is common to apply the whip freely. Solomon says, "a whip for the horse," but he may not refer to any cases of this kind. At any rate, it is often where thus used, of no benefit only the gratification of the enraged driver. A method which we have known more successful, is to treat the animal very kindly. His contrary disposition is usually the result of having been fretted in some way, and kindness may overcome it. Make much of him at all times. Speak gently to him, and so often that he will become accustomed to your voice. When he stops when attached to the carriage or load, and will not move, approach him in the same gentle manner. Stroke the mane, and pat the hand frequently on his head. Means of this kind will have a powerful tendency to overcome his stubborness, as brutes feel the power of kindness. We believe from what we have seen, that young horses especially, in nine cases out of ten, may be successfully cured of contrary habits in this way, while the application of the whip would only increase the difficulty.

Blacking for Harness.—Melt four ounces of mutton suet with twelve ounces of beeswax; add twelve ounces of sugar candy, four ounces of soft-soap dissolved in water, and two ounces of indigo finely powdered. When melted and well mixed, add half a pint of turpentine. Lay it on the harness with a sponge, and polish off with a brush.

Here is another recipe:—Take three sticks of the best black sealing-wax, dissolved in half a pint of spirits of wine; to be kept in a glass bottle, and well shaken previous to use. Applied with a soft sponge.

Another recipe for black varnish is the following: Best sealing-wax, half an ounce; rectified spirits of wine, two ounces; powder the sealing-wax, and put it in with the spirits of wine, into a four ounce phial; digest them in a sand heat or near the fire, till dissolved. Lay it on warm with a fine hair brush. Spirits of turpentine may be used instead of spirits of wine.

Governmental Depots for Stallions.—In France and Germany, the establishment of governmental *haras* or *depots* for the best stallions that can be found, in various parts of the country, and in such localities as are easily accessible to a given district, has been attended with the best possible results; and at this moment France can boast of several breeds which, as cart-horses, are second to none in the world for endurance, strength, and activity, if not for the more showy points of bulk and symmetry. At the recent exhibition of the Royal Ag. Society, two very good specimens of the Bolognese breed were shown, and every one admired their trotting action; combining speed with manifest power.

Cattle Swallowing Nails.—A correspondent of the *Homestead*, S. W. Bartlett, of East Windsor, Conn., tells a case that fell under his own observation, of indigestion and non-thrift of some Durham cattle. Two of them when slaughtered were found to have *nearly a pint of rusty shingle nails* in their stomachs. The owner had re-shingled his barns after they were filled with hay; the old nails had fallen between the roof boards upon the hay, and had passed into the stomachs of the cattle.

Important to Farmers.—A learned lawyer of this city has, after full investigation of the subject, given it as his opinion that a man's claim to land, if good at the surface, is good downwards to the centre of the earth. This must be encouraging to those farmers, who, if we may judge from their scratching only four or five inches of the surface, thought they owned only that amount of the land. They may now go down as far as they like and turn up untold wealth, which they have not heretofore been aware of, and have no fear of an action for trespass upon other people's domains. —*Louisville Democrat.*

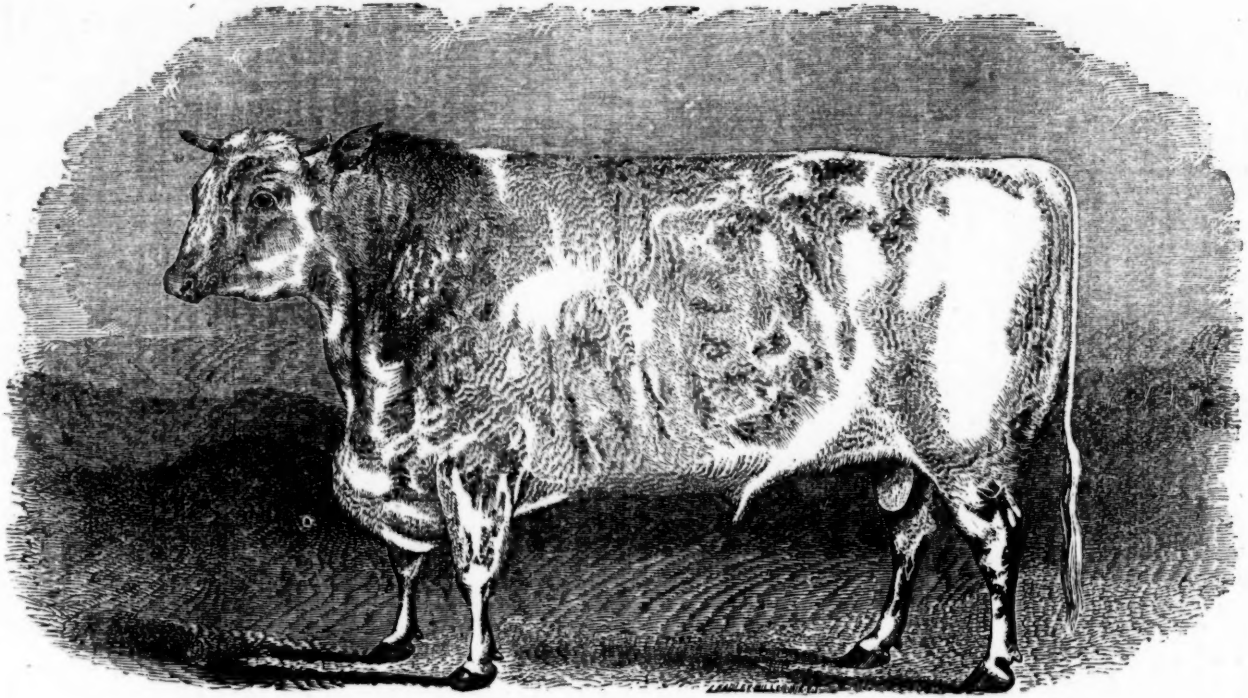
Apropos to this is the following:

How to Make One Farm Equal to Three.—In a recent address before the Ohio State Agricultaral Society, G. T. Steward, Esq., thus spoke on this subject:

"Many farmers are destroying the productiveness of their farms by shallow work. As they find their crops are diminishing, they think only of extending their acres of surface, as they suppose their title deeds only give them a right to six inches of earth. If they will take their deeds, study their meaning, and apply the lesson to their fields, they will soon realize in three fold crops, that the law has given them three farms where they supposed they had only one; in other words, that the subsoil brought up and combined with top soil, and enriched with the atmospheric influences, and those other elements which agricultural science teaches them to apply to their ground, will increase three fold the measure of its productiveness."

Curing Corn for Fodder.—I see in the last *Country Gentleman*, an inquiry about securing broadcast corn for winter. I have tried many ways, but have only succeeded well with all my crop thus: I set crotches in the ground, 12 or 15 feet apart, laying a pole in the crotches, say 7 to 8 feet above the ground. Commence at one end, laying rails or poles, 1½ feet apart, about 10 or 11 feet long, on each side, one end on the pole and the other on the ground, similar to the rafters of a tolerably flat roof—lay a few stalks crosswise of the poles or rails, to prevent the fodder from falling through—then commence standing the longest or straightest stalks, butt down, on the ground—put a course the length of the fodder house or stack on both sides—the next course butts up, and so on until the stack is finished, covering the top with coarse hay or long straw. It may be put on one foot thick, and covered again in the same way another foot thick, if desired, after standing a week or two in dry weather, leaving the frame open at both ends. I cut with a short cradle, when the corn is not very tall and stands up well, or with grass knives when down or stout, leaving it lying on the ground for three or four days before taking it up. When well put up it is sure to keep well. At the commencement of winter the north end may be closed up if desired, and filled inside.—Lewis Bailey, *Fairfax Co., Va., in Country Gent.*

Sheep Manure on Meadows.—Sheep manure is No. 1, for grass lands, which can easily and effectually be manured by building light movable sheds, open on one end; the sills to be made like sled runners on the ends; put them in the lots to be manured, and when the sheep occupy it for a lodging place long enough to give the ground in and around it a good coat of manure, hitch a team to it and remove it two or three rods, and so on. When you get across the lot, hitch on to the other end and draw it back over a new strip of land, and so on until the whole lot is manured in this way. The land will show the effect of the top dressing for many years.



MASTER BUTTERFLY—A SHORT HORN BULL.

BRED BY AND THE PROPERTY OF LIEUTENANT-COLONEL TOWNELEY, TOWNELEY PARK, BURNLEY, LANCASHIRE, ENGLAND.

MASTER BUTTERFLY was got by Frederick (11489), dam (Butterfly) by Jeweller (10354), g. d. (Buttercup) by Garrick (3863), g. g. d. (Barmpton Rose) by Expectation (1988), by Belzoni (1709), by Comus (1861), by Denton (198), a son of Comet (155).

In 1854, he won the first prize of £10 at the Royal Agricultural Society's Meeting, held at Lincoln; also the first prize of £5 at the Royal North Lancashire Agricultural Society's Meeting; as well as a piece of plate as the best of all the prize male animals. In 1855, he won the first prize of £5 and Silver Medal, at the Royal Dublin Society's Meeting; and the Gold Medal as the best of all the prize bulls, there being 190 bulls exhibited. At the Royal Ag. Society's Meeting, held at Carlisle, July 1855, he won the first prize of £25, for yearling bulls. At the last Meeting of the Royal Ag. Society, held at Chelmsford, July 1856, he obtained the first prize of £30, in Class 1, bulls over two and under four years old, and was afterwards sold to go to Australia, for the unprecedented sum of one thousand guineas!

Horticultural Department.

THE CULTIVATION OF THE STRAWBERRY.

MESSRS. EDITORS:—You have frequently favored us with articles on the cultivation of the strawberry. You have given pictures of strawberries that have made my mouth water, and have repeatedly urged every farmer to raise at least enough strawberries to keep his own table supplied with this delicious fruit; but though I have read all these articles, I am still ignorant of many things which I suppose are necessary to success. I have determined to plant out a few beds of strawberries, and would be glad if you would write one more article on this subject, so plain that he who runs may read—so simple that the dullest cannot fail to understand, and yet so full that one who has never raised a strawberry, and seldom seen any but wild plants, can go to work understandingly, and with some probability of success. Doubtless this is not an easy task, but your kindness in answering other inquiries which, at various times, I have made through the *Genesee Farmer*, leads me to hope that you will also favor me with the desired information.

Pendleton, N. Y., Aug. 22, 1856. J. W.

P. S. My object is to raise the strawberries for my own use, and not for market.

If our correspondent has read all the articles that have appeared in the *Genesee Farmer* for a few years past, on the cultivation of the strawberry, and is still as ignorant as he pretends to be, we fear his case is hopeless. However, we will once more do our best to enlighten him.

The strawberry is so named from the ancient practice of laying *straw* between the rows, for the purpose of keeping the ground moist and the fruit clean. The fruit is a fleshy receptacle studded with seeds.

The plants can be propagated by seeds. If sown immediately after being gathered, the seed will produce plants which will come into bearing the following year. The alpine and wood species come quite true from seeds, and produce finer fruit than when propagated in any other way. The seed of the other species does not produce plants true to their character, and is never sown except for the purpose of raising new varieties.

The strawberry plant sends out suckers and runners every summer. The latter throw out roots at every joint; and thus one plant will produce quite a number of new plants in the course of the summer. If these new plants are separated from the parent plant and from each other, and planted in new beds where they have sufficient room, they will bear fruit the next year. This is the usual mode of propagation.

In regard to the best time to take up and transplant these new plants there is some difference of opinion. PARDEE, in his "Complete Manual for the Cultivation of the Strawberry," says: "We have transplanted strawberry plants successfully for years, every month from March until the 20th of October, without difficulty. With mulching, shade and water, judiciously applied, it can be well done at any time." KEENS, a celebrated English strawberry grower, says: "With respect to the time of planting, I have always found the month of March better than any other. Sometimes, when my crops have failed, I have had runners planted in the autumn, for the following year, *but these have always disappointed my expectations.*" Spring planting is unquestionably the best, on the whole; but strawberries frequently do well when planted in the summer or fall, and yield a larger crop the first year. Much care, however, is necessary.

Unless the weather is showery, the plants before they are taken up, and after they are planted, will require *thorough* watering. If plants can be obtained from your own garden or in the immediate vicinity, be careful to take them up with as much soil adhering to the roots as possible. To do this the soil must be moist, and should be pressed into a ball round each root by the hand. In this way, you may be sure the plants will grow if properly watered. September is perhaps the best month for fall planting; though when planted in August a better crop may be expected the next summer—if the plants do well. This season has been so dry, that it would have been next to impossible to have successfully transplanted strawberries in August. We have now had a good rain, and it may be done with safety this month.

As you are a young beginner, it will not be well to plant too many varieties. In regard to the best kinds, see article in the last number.

As you have plenty of land, we would advise you to plant in rows three feet apart, and one foot in the rows. Much has been said in regard to the soil and situation best adapted to strawberries. The fact is, however, strawberries do as well on any or all soils, as corn or potatoes, and are just as easily raised.

Strawberries require a large quantity of water; and the great success of the London gardeners in raising such *large* strawberries, is mainly due to their system of irrigation. A moist soil is unquestionably best adapted to the cultivation of strawberries; but it is equally certain that stagnant water will injure or destroy the crop. As a general rule, it is impossible to raise a good crop of strawberries on ground that is not thoroughly *underdrained*. It should also be subsoiled, or spaded eighteen inches deep; and if this is done a year before hand, so much the better. It is very important to keep the land free from weeds; and if it is plowed or spaded unusually deep just before the plants are set out, it will, in all probability, throw up an unusual quantity of weeds. Subsoiling, so far as our experience goes, always has this effect. If the plants, therefore, are to be set out in the fall, the land should be subsoiled or spaded deep in the spring or fall preceding, and cultivated with some hoed crop during the summer. In this way, if the ground is well hoed and cleaned, there will be little trouble from weeds. This thorough cleaning of the ground before planting is a point of great importance.

Much has been written about *animal* and *vegetable* manures for strawberries; some contending that the

former are injurious while the latter are beneficial. In our opinion, there is no truth in this. The recipes for watering with a solution of various salts, corresponding to the ashes of the plant, are also unworthy of attention. Those who claim to have received such great advantage from these salts, should have ascertained what effect an equal quantity of pure water would have had. This they have not done. The fact is, our cultivated plants are composed precisely of the same elements; the only difference being in the relative proportions in which they exist; and it is found that a plant which contains a large proportion of potass, for instance, receives no more benefit from an application of potash, than a plant which contains but a relatively small proportion. In some instances, indeed, the reverse is true. You need not, therefore, trouble yourself about sal-soda, sal-ammoniac, &c. Let your land be well prepared, and enriched to a considerable debth with barn-yard manure, leaf mould, or muck compost, and the plants will find all the elements they need.

If you set the plants in the fall, on ordinary loamy soil, it is better to keep the ground bare, and to use the hoe frequently, than to mulch. It will be well, however, to cover the ground with litter or leaf compost, before winter sets in, or the young plants may be injured. We deem this indispensable for recently transplanted strawberries, and an advantage in all cases. When strawberries are planted in the spring, especially if the soil is sandy, it is best to mulch them before the hot, dry weather commences. Tanbark, placed so thick (say from one to two inches) that the weeds cannot get through, is the best mulch, although litter, leaves, or anything that will check evaporation from the soil, will answer. If our correspondent thinks mulching too much trouble, plant the strawberries on loamy soil, that has been well prepared, and it may be dispensed with, though it is always advantageous.

If these hasty hints are not as "plain," "simple," and as "full," as our correspondent wishes, we shall be happy to answer any further questions on the subject he has to propound.

California Hedge Plants.—The *California Farmer* says: "California can boast of several fine evergreen plants that would make close, secure and handsome hedges. Our dwarf evergreen oak, the Escalonia, and the Ceonothus, each make very beautiful hedges. The two last we can attest to, as we can refer our readers to the magnificent hedge of Escalonia around the flower grounds at Smith's Gardens, near this city—and the very beautiful Ceonothus hedge around the flower garden of William Fell, Esq., at San Souci. These hedges are worthy of a visit."

Hybridization.—It seems probable from Deut. xxii. 9—"Thou shalt not sow thy vineyard with divers seeds: lest the fruit of thy seed which thou hast sown, and the fruit of thy vineyard, be defiled," —that the Jews—and probably the Egyptians—were aware of the effect of permitting one flower to be impregnated by the pollen of another.

Gardening a higher Art than Architecture.—Lord Bacon remarks: "When ages grow to civility and elegancy, men come to build stately sooner than to garden finely, as if gardening were the greater perfection."

TRANSPLANTING LARGE TREES.

It is, to us, no small matter of congratulation, that the attention of the public is being yearly more and more turned to the improvement of our rural homes by the planting of fruit and ornamental trees. We admire, we *love* trees. They beautify, they enrich the country. From our earliest youth, we have always considered a tree one of the most beautiful objects of nature. We shall never forget the first time, although but eight years of age, we beheld the noble, stately and majestic elm, which towers over the village green, the pride of the citizens of Pittsfield, in Massachusetts. It is one of the monarchs of the primeval forest, and is cherished and nursed with the greatest care at the present time. It may be seen for miles before reaching the village. What is it, let us ask, that renders our eastern towns and villages so beautiful, so lovely, so enchanting? We answer, it is trees. Let us then commence at once and set out trees.

Spring is the season we find the most pleasure in making our rural improvements, and from this circumstance, probably, it has become the most general season for planting trees; but in our experience fall planting has been the most successful, particularly for fruit and deciduous trees, especially when droughts occur, as the trees when planted in autumn suffer little or none from that cause, when those set out in the spring often perish in consequence of it.

It is a great fault with many, in digging holes for trees, to make them altogether too small and contracted, and instead of spreading the small roots, as they should do, they are very apt to crowd them down with the spade, not only bruising but cutting them off, to the great injury of the tree. Our practice has been—and we have been very successful, too, particularly with forest trees—to make the holes somewhat larger than is necessary to admit the roots in their natural position, and of sufficient depth to allow the tree to be placed two or three inches deeper than it was before transplanting. If there be any broken or wounded roots, we cut them off. Care should be taken, when the tree is taken up, to have as much of the earth adhere to the roots as possible. Previous to placing the tree, let from two to four shovels full of composted manure, or what is still better, vegetable mould taken from the surface in a wood lot, in proportion to the size of the tree, be incorporated with the earth in the hole, and the whole made fine previous to filling it in; and during the filling in of the earth, let the tree be worked to and fro, in order that the finer particles of the soil may be admitted, and fill the spaces under the roots. In order to make it more certain, one or two pails full of rain or brook water thrown on the roots, will cause the earth to adhere more firmly to them; and when completely filled up, let the ground be well trodden down, and finish by making a hollow or basin around the tree to catch the rain and convey it to the roots, or to receive the watering which it will be necessary to give it, should the season prove dry. If the tree is small and the roots scant, it will be necessary to drive a tree beside and tie the tree to it, with a bandage of some soft material, to prevent chafing, as well as to prevent the winds from loosening the small roots. When larger trees are planted, that have wide spreading roots, rocks placed around the trunk will answer a good purpose.

A tree properly planted will grow as much in five years, as one carelessly and badly set will in ten; and often the chance of living is dependent on this slight circumstance.

In transplanting evergreens we have been particularly fortunate, seldom losing a tree. We planted quite a number of larches, arbor vitæs and cypress last year, on Staten Island, and only lost one. In the summer of 1838, when living on our farm, near the city of Albany, we planted in a clump, near the house, thirty white pines, some fifteen or sixteen feet in height, on the 25th day of May. It was a drizzling rain when we accompanied our men into the field where these pines grew. We first caused a trench to be dug around the tree, leaving a ball of earth about the roots three feet in diameter; then pulling the top over, a man on the opposide side cut off the small tap-roots, then hauling it over the other side, the roots were also cut. A stone sled was then put under the ball of earth, and the tree righted, with ropes attached to the top, and then started by a yoke of cattle—the men walking by the side, in opposite directions, with the ropes to keep the tree in a perpendicular position. When arrived at the pit where we intended the tree should stand, the oxen were disengaged, the tree moved from the sled into the pit, and the earth carefully and firmly placed around the roots. This was repeated until the whole number of thirty were set out. They all lived, with the exception of four or five on the outer side, which were disturbed by a severe wind in the fall after, by loosening the roots. Those left flourished and grew vigorously, and when we last saw them, about three years ago, they were from forty to fifty feet in height, with trunks of from ten to twelve inches in diameter.

In the month of June following, we transferred to our poultry-yard, when the mercury stood at 80°, six larches from a swamp, taking the same pains in setting them, and they all lived, and are now large and flourishing trees. C. N. B.—*Rochester.*

THE OSAGE ORANGE AS A HEDGE PLANT.—A gentleman travelling in the State of Illinois, gives the *Prairie Farmer* his opinion in regard to the rapidity of growth, hardiness, and general adaptability of Osage Orange as a hedge plant. He appears to talk understandingly on the subject, and "has been particular to be posted up." We are glad to have such a favorable report.

"I have seen it," he says, "when but three years old, successfully defy the intrusion of any animal bigger than a rabbit, into the field it was to guard! At four years growth, the fence, attended to *properly*, is not only reliable as an effective fence against all manner of intruding animals, but becomes, also, a most beautiful ornament. But another question arises—Will the Osage Orange stand this cold climate? This question must certainly be permanently settled; for if it would not be killed, *root and branch*, by a winter as severe as last winter was, it *never will* be killed by cold weather. I see a great many hedges around about Henry and Magnolia, and other places as far north, that seem scarcely to have been at all affected by the winter. I see none that have been effectually killed. Those that have at all been injured, have been injured only to the ground—the Orange springing up and growing thriftily from the roots. The Osage Orange then, we may say, is now demonstrated to be the great *desideratum* for fence."

CURCULIO ON THE PEACH.

MESSRS. EDITORS:—At your request, I furnish you my views of the curculio on the peach. I have made the depredations of the *Turk* a close study for a number of years. He begins his destruction as soon as the peach is formed, or when it is the size of a small June pea, and continues his work incessantly until the stone of the fruit is quite hard—that is, from the first to the fifteenth of July—after which his injury to the peach seems to cease all at once—knowing by instinct that the stone has become hard, and therefore the egg laid after that could not be of any avail, as it could not reach the heart of the fruit. I have never known the curculio to puncture the peach after the stone was hard; although you may find them on the tree, they seem harmless after that date. This fact is very important to those who wish to thin their fruit, so it will be good size, for they cannot do it with safety until the 10th to the 15th of the month; afterward you need have no fears.

The fact is astonishing, how much the United States loses by the curculio. It may be counted by hundreds of thousands, and even millions, annually; and yet the ingenuity of man has not been able to prevent his operations. The most successful means I have found, is the use of the finger and thumb. He does not confine his operations to the peach, but goes at the apricots, nectarines, plums, apples and pears. He begins operations by making a small puncture, then increases its depth until it is sufficiently deep, and then lays an egg in it, and instead of covering the furze of the peach over the puncture with his bill, he takes his fore feet and does the work.

I sincerely hope every lover of fruit will investigate this subject, and make experiments; peradventure we may arrest his further destruction.

A. PINNEY.

Clarkson, N. Y., Aug. 13th, 1856.

PROGRESS IN HORTICULTURE.—Gardening, like most other arts, had its origin in the supply of a primitive want; and, as wants grew into desires, and desires increased, and became more luxurious and refined, its objects and its province extended; till from an enclosure of a few square yards, containing, as Horace Walpole has said, "a gooseberry bush and a cabbage," it has expanded to a park of several miles in circuit, its boundaries lost in forest scenery,—a palace bosomed in wood near its centre;—the intermediate space varied by artificial lakes or rivers, plantations, pleasure-grounds, lawns, flower-gardens, hot-houses, orchards, and kitchen-gardens:—producing for the table of the owner and his guests, the fruits, flowers, and culinary vegetables of every climate of the world!—displaying the finest verdant landscapes to invite him to exercise and recreation, by walking over velvet turf, or along smooth and firm gravel walks, sheltered, shady, or open, in near scenes; or gliding with horses and chariots through "rides" and "drives" "of various view" in distant ones.

SIR William Temple has observed, that the love of gardens is the only passion which augments with age, and adds, that all men eat fruit who can get it: so that the choice is only, whether one will eat good or bad; and all things produced in a garden, whether of salads or fruits, a poor man will eat better who has a garden of his own, than a rich man who has none.

FERTILIZERS FOR FRUIT TREES.

In relation to appropriate fertilizers for trees a diversity of opinion prevails. All agree that certain substances exist in plants and trees, and that these must be contained in the soil to produce growth, elaboration and perfection. To supply these, some advocate the use of what are called "special manures," others ridicule the idea. I would suggest whether this is not a difference in language, rather than in principle; for in special fertilizers, the first make simply those which correspond with the constituents of the crop; but are not the second careful to select and apply manures which contain those elements? and do they not, in practice, affix the seal of their approbation to the theory which they oppose? Explode this doctrine, and do you not destroy the principle of manuring, and the necessity of a rotation of crops? Trees exhaust the soil of certain ingredients, and, like animals, must have their appropriate food. All know how difficult it is to make a fruit tree flourish on the spot from which an old tree of the same species has been removed.

The great practical question now agitating the community is, how shall we ascertain what fertilizing elements are appropriate to a particular species of vegetation? To this two replies are rendered. Some say, analyze the crop; others, the soil. Each, I think, maintains a truth; and both together, nearly the whole truth. We need the analysis of the crop to teach us its ingredients, and that of the soil to ascertain whether it contains those ingredients; and if it does not, what fertilizer must be applied to supply them. Thus, by analysis, we learn that nearly a quarter part of the constituents of the pear, the grape, and the strawberry, consists of potash. This abounds in new soils, and peculiarly adapts them to the production of these fruits, but having been extracted from soils long under cultivation, it is supplied by wood ashes or potash, the value of which has of late greatly increased in the estimation of cultivators.

Among the arts of modern civilization, universal experience attests to the great advantage of "mulching" the soil around fruit trees, as a means of fertilization and of preservation from drouth and heat, so common with us in midsummer. In illustration of this, experiment has proved that on dry soils, where the earth has been strewn with straw, the crops have been as large without manure as with it, where evaporation has disengaged the fertilizing elements of the soil.—MARSHALL P. WILDER, *in Patent Office Report.*

REMARKS.—Mr. WILDER is President of the American Pomological Society, and an intelligent, experienced fruit-grower. His opinions, therefore, are entitled to great consideration. He is evidently in favor of "special manures," and of analyzing the crop and the soil in order to determine the "fertilizing elements appropriate for a particular species of vegetation." Entertaining somewhat different opinions, we would most respectfully point out our reasons for rejecting the doctrine of special manures, as taught in the above article.

Fruit trees, and all our cultivated plants, *are composed of precisely the same elements,* some fourteen in number, four of which are termed organic, and ten inorganic. The former exist in the atmosphere, and may be inhaled by the leaves of plants; the latter are obtained only from the soil. If every one of these ten inorganic elements do not exist in the soil, no plant fit for food can grow on that soil, unless the lacking element or elements are supplied in manure. On this point all are agreed. Furthermore, we are willing to admit that it matters not whether the missing element is supplied in ordinary barn-yard manure, or in any artificial manure, or in its chemically pure state. To ascersain whether any particular soil is deficient in one or more of the elements of plants, it has been proposed, as Mr. WILDER states, to "*analyze the soil.*" Such an analysis *is unnecessary,* for if all plants contain the same elements, and no plant can grow on a soil unless it contains every one of the inorganic elements of plants, it follows that if the soil *does* produce a single spear of grass, a Canada thistle or a white daisy, it contains every one of the inorganic elements of plants. So that to "analyze the soil," for the purpose of ascertaining whether it is destitute of any element of plants, is unnecessary, if any plant is growing on the soil. If, therefore, a soil does not produce so much as a blade of quack-grass, and cannot be made to produce a plant of any kind by tillage alone, it may be necessary to analyze it, in order to ascertain which of the ten inorganic elements are missing;—on any other soil it is certainly useless.

"But" says the advocate of soil analysis, "the soil may contain enough of every element for the production of one species of plant, and not enough for another species which requires a larger quantity." This is true. *But no soil analysis can determine the point.* For instance, a soil ten inches deep would weigh about ten thousand tons, gross, per acre. A crop of wheat of fifty bushels per acre contains 40 lbs. of phosphoric acid. This 40 lbs. mixed up with 22,400,000 lbs. of soil, is one part in 560,000. Now, we have had some experience in determining phosphoric acid, and we always think that when duplicate analyses of the same soil agree within *one ten thousandth,* the analyses have been properly made. Certainly no one who has ever made a phosphoric acid analysis will pretend for a moment that he can determine one part in over half a million. No chemist, therefore, can tell whether a soil contains phosphoric acid for one hundred bushels of wheat, or only for fifty. And we hazard nothing in saying that he cannot tell whether it contains enough for 1000 bushels or 2000 bushels.

We do not, therefore, "need the analysis of the crop to teach us its ingredients," nor "that of the soil to ascertain whether it contains those ingredients;" for the ingredients of all crops are the same, and all soils that produce any plant at all contain all these ingredients, and analysis will not tell us whether they exist in sufficient quantity or not.

There is another view of the doctrine of "special manures," which must not be overlooked. It is now generally admitted that all our cultivated plants contain the same ingredients, and that therefore, there is no "special" element required for one plant, that is not needful for the growth of another. But there are some plants which contain much more of some particular element, than other plants. For instance, according to the analyses of RICHARDSON, (See Annual Report of the Progress of Chemistry, Part 5, London edition, page 318,) the ash of the cherry contains 1.12 per cent. of soda, that of the pear 8.52, and that of the apple 26.09. The advocates of special manures would from this recommend a soil or manure for apples which contains a large quantity of soda, while for cherries—the ash of which contains little soda but abounds in potash (51-85 per cent.)—they would recommend a soil or manure which contains little or no soda and much potass. This is in

fact the theory of "special manures," as understood by all intelligent writers on the science of manuring.

Baron LEIBIG, though not the originator, is the popular promulgator of this doctrine. Its plausibility, and its learned advocate's reputation, gave it immense popularity when first announced, and we cannot be surprised, however much we may regret, that it forms the woof or warp of nearly all our agricultural and horticultural literature of the past fifteen years. Indeed, so true is this, that Mr. WILDER may well exclaim: "Explode this doctrine, and do you not destroy the principle of manuring"? Nevertheless, we cannot close our eyes to the fact that however plausible it may be, this doctrine is simply a *deduction*. There is no experimental proof of its truth, while there are many isolated facts which show that it is not true in all cases.

So far as fruit trees are concerned, we are without experimental evidence either to sustain or refute this doctrine. We are, therefore, left to analogy. The experiments made during the last thirteen years at Rothamsted have, among other things, thrown much light on the chemical requirements of wheat and turnips. The ash of wheat contains 50 per cent. of phosphoric acid, that of turnips 10 per cent. LEIBIG has said, and the doctrine of "special manures" would lead us to expect, that wheat requires a soil or manure much richer in available phosphoric acid than that required for turnips. But what is the fact? It has been proved that for the growth of turnips, a soil requires a much greater quantity of available phosphoric acid, than to produce wheat! This fact cannot be doubted; the experiments that have been made at Rothamsted and in hundreds of other places, and the general experience of British farmers, place it beyond all cavil. We could mention other facts that militate against the doctrine of special manures, but it is unnecessary; for as there is not a single well established fact that sustains the doctrine, and as it has been proved erroneous in the only case in which it has been fairly tried, we have no certainty that it may not be equally untrue in all other cases.

While, as we have said, there are no carefully conducted experiments, that demonstrate the truth or fallacy of this doctrine, as applied to horticultural plants, there are many observed facts that would of themselves throw doubt on its correctness. Thus the vine contains a large proportion of potash, (according to CRASSO, the wood contains 44.15 per cent., and that of the juice of ripe grapes 71.85 per cent.,) and we should expect that the manures best suited for grape vines would be those containing much potash. But is it so? We believe practical experience answers no. The carcasses of animals, abounding in ammonia and phosphoric acid, are found to produce an astonishingly beneficial effect on the growth of grape vines; and bone-dust, which contains a large quantity of phosphoric acid and ammonia, and very little potash, is a highly esteemed manure. A short time since, an intelligent gentleman of this city, a close observer and successful fruit-grower, informed us that a few years ago he buried a considerable quantity of horn-piths beneath his grape vines. Having to remove his vines some time afterwards, he found that the roots had pushed through the soil to the horn-piths, and literally encased them with a dense mat of small fibrous roots. The vine was evidently fond of this kind of food, and imbibed it in large quantities. Now, horn-piths abound in ammonia and phosphoric acid, *and contain very little potash!* And thus, while as Mr. WILDER says: "Nearly a quarter part of the pear, [RICHARDSON found 54.69 per cent. of potash in the ash of the pear,] the grape and the strawberry consists of potash," we are not warranted in concluding that it is the potash which "abounds in new soils," that "peculiarly adapts them to the production of these fruits." The turnip plant abounds in potash, (from 40 to 50 per cent. of the ash,) while it contains comparatively little phosphate of lime; and yet potash is not a special manure for turnips, and is never used for this purpose, while phosphate of lime has an astonishing effect on them —one manufacturer alone, as he himself informed us, selling 12,000 tons of superphosphate of lime for this purpose, last year, in Great Britain. All who have used superphosphate of lime for turnips, must have observed that when the turnip came in direct contact with the superphosphate, an immense number of small fibrous roots are thrown out, as in the case of the vines mentioned above. Furthermore, we have seen the roots of the turnip pushed out, laterally, between three and four feet long, in order to reach superphosphate. Now we *know* that superphosphate is a *special* manure for turnips, and is it not probable, from the facts mentioned above, that phosphates and ammonia, rather than potash, are the *special* manures for the vine? Do not these facts warrant us in asking such influential writers on horticulture as Mr. WILDER, to give this whole subject of "special manures," and soil analyses, a careful reconsideration?

CARE, LABOR AND THOUGHT IN HORTICULTURE.—An ancient Roman gardener, C. FURINUS CRESINUS, PLINY informs us, was so successful in raising fruits and vegetables, that he was accused before the Senate of practising magic, and was obliged to justify himself by displaying his tools. As he did so he exclaimed: "These are the implements of magic which I use, but I cannot show you the cares, the toils and the anxious thoughts which occupy me day and night."

GREAT GROWTH OF A PAWLONIA.—A Pawlonia tree in the garden of our friend BROWN, of the *Ohio Farmer*, killed last winter by the cold, has sent up a shoot from the crown, that has now attained the height of twelve feet, with a diameter, at one foot from the ground, of three inches. Many of the leaves are from two feet to twenty-eight inches across. It has also several lateral branches.

TIE UP YOUR DAHLIAS.—If you have not already staked and tied up your dahlias, do so at once. When not tied, the high winds which frequently prevail at this season, will probably blow down or break the stem, and convert your beautiful "Queen of Autumn" into an eye-sore.

MULCHING AND STIRRING THE SOIL.—The more experience we have in horticultural pursuits, the more we are convinced that we should protect our plants by mulching; and that the drier the season the more frequently should the soil be stirred.

AMERICAN OAKS IN PARIS.—One hundred and thirty American Oaks were planted last year in the city of Paris. Of these eighty-seven took root, and are green and flourishing. The rest, forty-three, are dead.

FRUIT PROSPECTS.

The crop of fine pears this season will be very light—not over one-third of an average. I have been in several orchards, and the prospect is anything but flattering, especially on the standard trees. My dwarfs will not average over a third of a crop. I observed, however, in Messrs. Ellwanger & Barry's plantation, a good crop.

The crop of apples will also be very short throughout the country—not over one-third of a crop. Fruits generally will probably bring a good price this fall.

Yours, &c., A. P.

Clarkson, Monroe Co., N. Y., Aug. 20, 1856.

The Apple, Peach, and Pear Crop in Mass.—"The apple crop in this vicinity," says the *Boston Transcript*, "will hardly be an average one. In some localities it will be quite short, in others only medium. The peach crop will be very small indeed in most localities. The pear trees will yield a full crop, and the quality now bids fair to be excellent. The recent wet and foggy weather has swelled fruit of this description most remarkably, and a change in the weather will cause it to mature rapidly."

The *N. Y. Shipping List* remarks that the crop of peaches will be very small—a few Red Rare Ripes are coming in, and bring $2 per basket, quality poor. The crop of apples, which but a few weeks ago promised to be large, has been found to be greatly reduced, by the long-continued drought. New Jersey, it is now said, will have none for market, and the West, it is expected, will produce half a crop.

The *Farm Journal*, published at Philadelphia, says: "The apple crop promises tolerably fair. We have during the last four or five weeks passed over a large portion of the territory surrounding Philadelphia, and have observed that the apple trees were nearly all well set with fruit. The young apples appear to be sound and healthy, though we do hear occasionally of instances where the fruit is dropping rapidly.

"Pears are abundant. We have never known a finer prospect, at least never on standard trees."

Snow a great Protection from Cold.—The venerable David Thomas, of Union Springs, N. Y., for many years a regular correspondent of the *Genesee Farmer*, sends the following note to the *Country Gentleman:*

"Since the date of my last article on *Vernal Flowers*, I have become an octogenarian, and so infirm that my 'consulting physician' has forbidden me to write for the Press. But I want to record three facts.

1. The common potato, in several parts of our garden where small tubers were neglected last fall, has come up *like a weed*, though some of these were not covered more than an inch deep with earth. So I infer that the ground, protected by the snow, was not frozen to that depth, severe as the winter has been.

2. Three bulbs of *Gladiolus floribundus* were forgotten, and remained out all winter, though this plant is from the Cape of Good Hope, and marked *tender* in Loudon's Encyclopedia. They are growing finely; it bears a beautiful flower.

3. *Mimulus guttatus*, marked by a crimson spot or *drop* on its yellow coral, and which has been treated as a green-house plant, was also forgotten, and left out without any care on our part. It is now in a flourishing condition."

RESERVED FLOWER PLOTS.

Those flower-gardens are now looking best, that are fortunate enough to have their blanks (made by the decay of summer flowers) supplied by new plants, raised in beds of reserved ground or in pots. To keep in high order all the exposed plots of flower ground, this plan of aside planting is absolutely necessary. A small space, in the most obscure and sheltered place, will serve the purpose, where the soil is *loamy*. This is quite important in seed beds, that balls of it may cling to roots in transplanting. Here bulbs may be forced, and plants handsome only in blossom, (as cockscombs, balsams and others,) may be repotted again and again, till they will surprise those who have never experimented with them, when at last brought, in August and September, to the beds to take the places of those that have withered and been removed. Stocks and asters are ready a little later for removal, and half hardy annuals, which are now in bud and bloom, as Mesembryanthemums, Schizanthus, Thunbergia alata, and Calceolarias, may here be raised in portable pots, to adorn waste places. Perhaps these last named plants belong too much to green-house culture for common use, but the plan of reserving ground is practicable and desirable for very common gardening.

Pleasures of Planting.—Where shall we find so pleasing an appreciation of the pleasures that attest the lover of a garden, as in the following extract of a letter from the venerable Dr. Fothergill:

"Planting and gardening supply a fund of entertainment, the most lasting and reasonable of any occupation of this life, pleasures not to be purchased. The trees which we ourselves have planted, the fruits we have raised, the plants we have cultivated, seem to be like our children, a kind of new creation. Their shade, their taste, their fragrance, and their beauties, affect us with a richer repast than any other. What a pleasing scene lies open to a young man of fortune devoted to such amusements. Each succeeding year produces new shades, other fruits, fresh beauties, and brings besides most certain profit. To behold the rising groves, barrenness made fertile, our country improved, ourselves made useful and happy, and posterity enriched! I have seldom known of a man possessed of a taste for such pleasures, who was not at the same time temperate and virtuous."

To Produce Fruitfulness.—The only permanent and general modes of producing fruitfulness in fruit-trees are, supplying the tree with suitable soil; inducing the roots to rise to the surface; and judicious pruning. By attending to these particulars, fruit-trees may be made to produce as much fruit as they have strength to ripen; and any attempt to make them do more cannot fail to produce a lasting injury for the sake of a transient, or, at least, temporary advantage.

Propagate Choice Fruit.—As this is now the fruit season, we would suggest that our readers who wish to cultivate choice varieties, should notice the fruits in their neighborhood, and if there is anything good, when the time comes for grafting, procure scions and graft. There is much good fruit in every county that is not known beyond the place where it originated.

A FEW HINTS ON BUDDING.

Budding, or innoculation, is one of the most general, and, in this country, by far the most important method of summer propagation. This operation consists in removing a bud from the variety to be propagated and inserting it on another, which is called the stock. Its success depends upon the following conditions: In the first place, there must be a certain degree of affinity between the stock and the parent plant from which we propose to propagate. Thus, among fruit trees, the Apple, Crab, Pear, Quince, Mespilus, and Mountain Ash, all belong to the same natural family, and may be worked upon each other. The Plum, Apricot, Nectarine, Peach, and Almond, form another natural division, and work upon each other. The Cherry must be worked upon some kind of Cherry, and Currants and Gooseberries go together. In general practice the Apple is worked either upon Apple seedlings, which are called free stocks, or upon the *Doucain* or *Paradise*, which are dwarf-growing species, and are used for the purpose of making small trees. The Pear is worked either upon Pear seedlings, which are called free stocks, or upon the Quince to make dwarfs; occasionally it is worked upon the Mountain Ash and Thorn. But it must be borne in mind, that while all varieties succeed on the Pear seedling, a certain number fail entirely on the other stocks we have named. Lists of such as succeed particularly well on the Quince will be found in previous numbers of the *Horticulturist*. The Cherry is worked either upon seedlings of what is known as the Mazzard, a small, black, sweet cherry, that form a large, robust tree; or for dwarf, on the Mahaleb, a perfumed cherry, which is a small tree, with bitter fruit, about as large as a common pea.

In the second place, the buds must be in a proper state. The shoot, or scion budded from, must be the present season's growth, and it should be mature—that is, it should have completed its growth, which is indicated by the formation of a bud on the point, called the terminal bud, and the buds inserted should be wood buds. On a shoot of this kind, there are a number of buds unsuitable for working; those at the base being but partially developed, are liable to become dormant, and those on the point, where the wood is pithy, perish. The ripening or maturing of the buds must regulate the period of budding, so that the time at which any given tree or class of trees should be worked, depends upon the season, the soil, and other circumstances which control the ripening of wood. In our climate, plums usually complete their growth earlier than other fruit trees, and are, therefore, budded first; we usually have ripe buds by the middle of July. In some cases, when the stocks are likely to stop growing early, it becomes necessary to take the buds before the entire shoots have completed their growth, and then the ripe buds from the middle and lower parts are chosen. Cherries come next, and are generally worked about the first of August. The buds must be mature, or a failure will be certain.

In the third place, the stock must be in the right condition—that is, the bark must lift cleanly and freely from the wood, and there must be a sufficient quantity of sap between the bark and wood to sustain the inserted bud and form a union with it. Stocks, such as the common sorts of Plum, Pear and Cherry, that finish their growth early, must be worked early; while such as the Peach, Quince, wild or native Plum, *Mahaleb* Cherry, &c., that grow late, must be worked late. If these stocks that grow freely till late in the autumn be budded early, the buds will either be covered up—"drowned," as it is technically called—by the rapid formation of a new woody substance, or they will be forced out into premature growth.

A very great degree of sappiness, in either the stock or bud, make up, in part, for the dryness of the other. Thus, in the fall, when plum buds are quite dry, we can work them successfully on stocks that are growing rapidly. This is a very fortunate circumstance, too. Young stocks, with a smooth, clean bark, are more easily and successfully worked than old ones, and when it happens that the latter have to be used, young parts of them should be chosen to insert the bud on.

In localities where buds are liable to injury from freezing and thawing in the winter, the buds are safer on the north side of the stock; and when opposed to danger from wind, they should be inserted on the side facing the point where the most dangerous wind blows from. Attention to this point may obviate the necessity of tying up, which in large practice is an item of some moment.

In the fourth place, the manual operation must be performed with neatness and despatch. If a bud be taken off with ragged edges, or if it be ever so slightly bruised, or if the bark of the stock be not lifted clean without bruising the wood under it, the case will certainly be a failure. The budding-knife must be thin and sharp. A rough-edged razor is no more certain to make a painful shave, than a rough-edged budding-knife is to make an unsuccessful bud. It takes a good knife, a steady hand, and considerable practice, to cut off buds handsomely, well, and quick. As to taking out the particle of wood attached to the bud, it matters little, if the cut be good and not too deep. In taking out the wood, great care is necessary to avoid taking the root of the bud with it. Then when the bud is in its place, it must be well tied up. Nice, smooth, soft strips of bark, like narrow ribands, are the best and most convenient in common use. Every part of the cut must be wrapped so firm as to exclude the air completely; and this should be done as quickly as possible, as the air soon blackens the inner surface of the new parts that are placed in contact.—*The Horticulturist.*

Fruits of the Crimea.—New apples, of extraordinary excellence, have been discovered in the Crimea, which will no doubt, find their way to Europe and America. Pallas speaks of one called the Sinap Alma, which keeps till July, and only acquires its excellence before the new year. Wagon loads are annually sent to Moscow, and even St. Petersburg. There is also an autumn apple, thought to be far the best ever tasted in any country. A larger cobnut than heretofore known, is also recorded. Twenty-four varieties of grapes are also cultivated, either for wine or the table. None of them appear to be of importance.—*Edinburgh Phil. Journal.*

Butter from a Tree.—On the banks of the river Niger, in Africa, they have a tree called Shea, from which excellent butter is obtained. The tree resembles our oak, and the fruit resembles the Spanish olive. The kernel of the fruit is dried in the sun and then boiled, and the butter thus obtained is whiter, finer, and of a richer flavor than that which is obtained from the cow, besides keeping sweet a year without salt. The growth and preparation of this article is one of the leading objects of African industry and commerce.—*Exchange.*

New Test for the Strawberry.—At a late meeting of strawberry tasters, amateurs, a decision as to the best variety not having been agreed upon, it was proposed to leave the question to the birds. A careful watch was set, and it was discovered the rogues gave a preference to Burr's New Pine, and we are not sure but they have good reasons for their preference.—*Horticulturist.*

A FEW WORDS ON PLANTING FRUIT TREES.

A CORRESPONDENT asks: "Is spring or fall the best time to plant fruit trees?" This is a point on which our best authorities disagree. Dr. LINDLEY says: "I entirely agree with Mr. MACNAB, that the earliest time at which planting can be effected is upon the whole the best." * * "If at that time, a root is wounded, a process of granulation, or cicatrization, will commence, just as it does in cuttings; and from that granulation, which is a mere developement of the horizontal cellular system, roots will eventually proceed. Now, it is obvious that since the root *must* be wounded in the process of transplanting, the sooner the wound is made the better, because it has the longer time in which to heal; and therefore the earlier in the autumn transplanting is effected, the less injury will be sustained by the plant submitted to the process; in the technical language of the gardener, it has the more time to establish itself." LOUDON says: "The best time for planting an orchard is the autumn, as soon as the trees have ripened their wood, and dropped their leaves. If the work be properly executed at this season, the trees will push out fresh fibres the same year, and be ready and able to push out shoots of considerable vigor in the spring."

It would be impossible to cite higher authorities. But it must be borne in mind that the climate of England is very different from that of this country. The theory of Dr. LINDLEY is undoubtedly correct, but the practical application of it may be greatly modified by circumstances. Let us examine American authorities on this point.

DOWNING, after giving similar physiological reasons to those of Dr. LINDLEY quoted above, says: "Autumn planting is for this reason greatly to be preferred in all mild climates, and dry soils; and even for very hardy trees, as the apple, in colder latitudes: as the fixed position in the ground which trees planted then get by the autumnal and early spring rains, gives them an advantage, at the next season of growth, over newly removed trees."

"On the other hand, in northern portions of the Union, where the winters commence early, and are severe, spring planting is greatly preferred. * * The proper time in such a climate is as early as the ground is in a fit condition in the spring."

THOMAS says: "For apple and other hardy trees, autumn is perhaps the best. * * The more tender trees, as apricots and peaches, removed to a colder region, may be in some danger, especially if the roots have been much mutilated, and the setting out badly done."

ELLIOTT says: "With nearly all trees and all locations, fall is the best time to transplant." Reasons, same as those given by Dr. LINDLEY.

Our correspondent will perceive that nearly all our best horticultural writers are in favor of fall transplanting. The experience of the last two winters, however, has led us to a somewhat different opinion. It is a generally conceded fact, that a tree recently transplanted is not as hardy as it would have been had it not been disturbed. All accounts from the west agree that the intense cold of the past winter in that region was particularly injurious to all recently planted trees. Thousands and tens of thousands of trees planted last fall were killed outright, and nearly all were much injured. It may be said on the other hand, that thousands of trees planted in the spring are annually injured or destroyed by the severe droughts of summer. This is true; but is it not attributable to late or careless planting, and negligent after treatment?

The fact is, that success in fruit culture depends much more on the subsequent preparation of the soil, and on the after treatment of the trees, than on the period of planting.

Our correspondent lives in the west, and intends to get his trees from the nurseries in this city. Under such circumstances, we have no hesitation in advising him to order the trees this fall; unpack them as soon as they arrive; dig a trench in a *dry* soil, and lay them in by the roots, and cover them carefully with soil a few inches deeper than they were in the nursery. Let them remain here during winter, and set them out in the spring as early as the frost is out of the ground. The spot selected for "heeling them in," if possible, should be on the north side of a building, so that the sun cannot shine upon them and start the sap too early in the spring. If sheltered from our cold winds, it would be still better. It would also be advantageous to lay them in the trench in a slanting position, say at an angle of 45°; and if the winter is very severe, the tenderer kinds of trees, such as the peach and apricot, would be the better for having a few branches of evergreens, &c., laid over them. Straw should not be used, as it attracts mice and other vermin.

The advantages of this plan are obvious. The nurserymen are not as busy in the fall as in the spring, and can give more time to packing, &c. You have the first pick of the trees, they can be sent by the cheapest routes, and you are certain of getting them in season for early spring planting!

Whether planted in the spring or in the autumn, the most important point to be attended to, and the one which is generally neglected, is *the preparation of the ground*. Having determined where you will plant your trees, dig a hole three or four feet deep, and if in the course of a week or ten days you find water in it, *you must underdrain*. It is the veriest folly to expect a good orchard on land which at any season of the year contains stagnant water. Having underdrained it, the next thing is to plow and subsoil it in the fall. This should be the first thing to be attended to after wheat sowing. After the weeds are started, it should be plowed again, turning in about twenty loads of manure to the acre. Then let it lie till spring. Plant as early as the ground is in good working order, keep the land free from weeds, and success is certain. If you *must* sow any thing between the trees, let it be a hoe-crop. All things considered, perhaps *beans* are the best and corn the worst hoed crop to be planted amongst trees. On no account sow oats, barley, &c.

There are those who prefer applying the manure directly to the tree, instead of spreading it over the whole ground. On very light soil, it is perhaps best to do so, as there may be some loss from leaching. But on loamy land you need have no fear on this account. One thing is certain, fresh, unfermented manure should never be put into the holes where the trees are to be planted, unless it is done in the fall and the trees are planted in the spring. If manure is applied directly to the trees at the time of planting, it should be in the form of a compost. The compost may be made of one-third soil and two-thirds barn-

yard manure, placed in a heap a year before it is needed, and turned once or twice to assist decomposition. Peat or muck thoroughly decomposed with lime or ashes, or both, is also a good compost for fruit trees.

CHINESE POTATO *(Dioscorea batatas)*.—C. A. PEABODY, Esq., the "great Strawberry man," and Horticultural editor of the *Soil of the South*, published at Columbus, Ga., does not appear to entertain a very favorable opinion of this proposed new esculent. He says:

"That new horticultural wonder, the Chinese Yam, proves a delicate and slow grower. We are satisfied that in this climate it will take two years, at least, to get a tuber large enough to eat. The vine resembles our wild potato, but not half as luxuriant. We have no idea that we shall have to move our fence round the Chinese Yam patch, in consequence of the enlargement of the tubers."

APPLES FOR NEW ENGLAND.—A correspondent of the *Country Gentleman* says:

"The Baldwin, Roxbury, Russet and R. I. Greening are decidedly the best apples that can be raised in New England. From what experience I have had in fruit growing, the reply the man made when his advice was asked what varieties he should select, was not so very absurd after all. Says he, "If I were going to set out one thousand trees, I should choose nine hundred and ninety nine Baldwins, and I should not be particular about the rest."

"WOODMAN, SPARE THAT TREE."—"Let us pause," says Miss COOPER, in her *Rural Hours*, "to count the days, the months, the years—let us remember the generations that must come and go, the centuries that must roll onward, ere the seed of this year's cones shall produce a wood like that just prostrated. The stout arm so ready to raise the axe to-day, must grow weak with age, it must drop into the grave; its bone and sinew must crumble into dust long before other trees, tall and great as those, shall again occupy the same spot."

THE CULTIVATION OF DATES IN CUBA.—The Havana correspondent of the *Charleston Courier* says:

"One of the most industrious planters in the neighborhood of Matanzas, has succeeded in cultivating the date tree; and his success is beyond all his calculations. I have eaten some of the fruit, and consider it as good as the best I have ever tasted. A few more such men in our rich island, would soon revolutionize our antique system of agriculture, &c. The tree grows fully as high as it does in Africa, and bears abundantly."

TO PRESERVE APPLES FOR WINTER.—Pick them carefully, and put them in barrels without bruising; then head them up and keep in a cool, dry shed, till they are in danger of freezing; then remove to the cellar, and give them a cool airy place until needed for use.

GOLD AND COPPER IN PLANTS.—It is said that chemists have found gold, in extremely minute quantities, in the roots of violets, and in the stems and tendrils of the vine, and copper in tobacco and coffee.

PLINY says that the way roses were produced prematurely by the Romans, was by watering them with warm water when the buds began to appear.

WINE MAKING.—There has been so much mystery thrown around wine making, that many are deterred from the effort that have an abundance of grapes. But as we have said before, every family that has two grape vines on the lot, may make wine enough for home consumption, better and cheaper than they can *import it* from the grocer's factory. We will give, for the benfit of our readers, our *modus operandi* of wine making.

Let the grapes be fully ripe; gather them in clear, dry weather; look over the bunches and pick out all imperfect and rotted berries. Now have the wooden troughs, trays or tubs perfectly clean and sweet, and and mash the bunches on the stems by hand; as the tray is filled, empty the mass into a clean tub, and so continue, until all the grapes are mashed; stir, the whole mass together in the tub, and leave it for fermentation; in a few hours bubbles will begin to rise, and in twenty-four to thirty-six, the mass will become so agitated that it will boil like a pot over the fire; watch it closely now, and as the fermentation subsides, put the mass into strong bags, and by some strong lever power, press the juice out; after the juice is all extracted, place it in a clean vessel and try its strength; if an egg will float in it so as to show the size of a quarter of a dollar, the juice will keep without the addition of sugar or brandy; if the egg sinks, add good brown sugar until it rises. Now turn the juice into a sweet cask; five, ten or thirty gallons, according to the quantity of the liquid; set the cask in a quiet, shady place in the attic or in the cellar. (We prefer the attic.) Leave the bung out, and from a pitcher of the juice, which should be reserved for the purpose, fill up the cask three, four or five times a day, for eight days; in the mean time, all the impurities in the juice will work out at the bung hole; after eight days place the bung slightly in the hole. Let it so remain for eight days longer, then drive it in and seal up the cask as tight as possible. Let the cask remain perfectly quiet, and any time after the March following, it may be drawn off and bottled. It will be no injury to the wine if it remain upon the lees for two or three years before it is bottled, as it ripens better and fattens upon the lees, but it may be used as soon as the March after making.—*Soil of the South.*

DESTROY THE WEEDS.—

"One year's seeding,
Makes seven year's weeding."

We exhort farmers and gardeners to look out sharply for the border ruffians that are invading their premises, and to kill every one of them, if they can do it constitutionally. There is no treason in resisting such characters in the old States. Every weed that goes to seed now, leaves a progeny of thousands to appear next year. Be sure and exterminate them as carefully in autumn as in spring—the work is more important. The stirring of the ground keeps up the circulation of air and the fertilizing gases about the roots of plants, and is as good, in a dry time, as a generous shower of rain.—*Drew's Rural Intelligencer.*

VITALITY OF SEEDS.—Parsnip, rhubarb, and other thin, scaly seeds, keep for one year.

Carrot, cress, okra, gumbo, onions, peas, peppers, and small herbs in general, for two years.

Asparagus, egg plant, endive, lettuce, mustard, parsley, for three years.

Cabbage, cauliflower, corn, radish, sea kale, turnips, for four years.

Beet, celery, cucumber, melon, squash, for from five to ten years.

To preserve seeds they must be kept cool without being kept damp.—*Patent Office Report.*

Ladies' Department.

FLORAL IMITATIONS.

Gazettes abound in suggestions and records of discovery and hints of improvement in methods of imitating flowers, and so far has this branch of industry been pushed, that nearly every article in requisition for refined and enlightened humanity, is adorned with skillfully constructed resemblances of vines, and leaves, and blossoms, without hindrance from obstacles in material.

A process is just recommended for obtaining accurate casts of flowers, in *plaster*. They have been copied in *wax*, till they seem to live and exhale fragrance—so perfect grows the art. They are exhibited in curiously braided *hair*, not beautiful imitations, but most ingenious. They figure in would-be argillaceous immortality, delicate and soothing, on one's tea-cup, at evening seen through the "lucid atmosphere of mild Cathay." To produce them on canvass, and glass, and metal, and wood, and to carve them into stone, is the proud life occupation of thousands. To leave their fair outlines upon cloth for garments and hangings, the employment of thousands more. Italy, skilled in painting and other arts, exulted in her success in forming from dyed *cocoons, artificial flowers* for purposes of dress, that supplanted a ruder sort made from ribbons folded and twisted upon wire. Italian cunning yielded to superior French contrivances, that, with Florence taffeta, and velvet, and finest cambric, and thin whalebone leaves, and glass, and silk, with the added vivacity of Tyrian dyes, made these comparatively coarse materials assume most flower-like figures, worthy of a garden bed. These too have given place in point of beauty, though not in general use, to the superb and admirable manufactures of the South American savages, of blossoms and leaves from the brilliant plumage of their birds, whose unfading natural hues so closely resemble the gorgeous coloring of tropical vegetation.

Even poor counterfeits are compliments. Boquets of paper flowers, of common hues, flaunt in the dwellings of the poor—costlier garlands, tinted with indigo, and curcumine, and carmine, and archil, hang from the chandeliers and adorn the drawing-rooms of the rich,—each furnishing its meed of pleasure, paling only before the purer pleasure of planting, training, gathering and cherishing flowers that are *no* counterfeits.

Lady Equestrianism.—"If we are to have a progeny worth perpetuating," says the *Plough, Loom and Anvil*, "our ladies must take more invigorating exercise than is usual among us. We would rather see farmers' wives and daughters turning the swath and raking after the cart, than see them pining for want of exhilarating exercise in the open air; but we would sooner see them riding on horseback, to the tune of ten miles an hour. It is an elegant art. Nothing is more conducive to health. *Farmers* have no excuse for not training their sons and *daughters* to it."

Sweet-Apple Pudding.—Take one pint of scalded milk, half a pint of Indian meal, a teaspoonful of salt, and six sweet apples cut into small pieces, will afford an excellent rich jelly. This is one of the most luxurious yet simple Yankee puddings made.

HINTS FOR HOUSEWIVES.

Beeswax.—The neatest way to separate beeswax from the comb, is to tie it in a piece of linen or woolen cloth or bag, with a pebble or two to keep it from floating; place it in a kettle of cold water, which is hung over the fire; as the water heats, the wax melts and rises to the surface, while all the impurities remain in the bag.

Cockroaches.—To destroy roaches, a correspondent of the *New-York Express* says: "Place a basin of strong suds, sweetened with molasses, on the floor, every night, with a wet cloth on the floor, the edge on the basin, for easy access to the water. By this means they will soon be entirely destroyed."

How to Make nice Candles.—Good candles may be thus made: Melt together ten ounces of mutton tallow, a quarter of an ounce of camphor, four ounces of beeswax, and two ounces of alum, and then run it into moulds as usual, or dip the candles. These candles furnish a beautiful light.

Another Method.—Take two pounds of alum for every ten pounds of tallow, dissolve it in water before the tallow is put in, and then melt the tallow in the alum water, with frequent stirring, and it will clarify and harden the tallow so as to make a most beautiful article for either winter or summer use; almost as good as sperm.

To Make Tomato Wine.—Take small, ripe tomatoes, pick off the stems, put them into a basket or tub, wash clean, then mash well, and strain through a linen rag, (a bushel will make five gallons, pure,) then add two and a half to three pounds of good brown sugar to each gallon; then put into a cask, and ferment and fine, as for raspberry wine. If two gallons of water be added to each bushel of tomatoes, the wine will be as good.

Baked Tomatoes.—Tomatoes peeled and baked on a flat dish, as we bake apples, (or even baked without peeling,) and when done, seasoned with salt, butter and pepper, is, we think, the most luscious way of preparing this excellent fruit.

LOOK OUT FOR EARLY FROSTS.

Tender flowers for green-houses and parlors must be removed from the earth by the last of September, that they may begin their season fresh and free from discoloration or weakness from early *frosts*. Hardy and half-hardy annuals, that are yet blooming in open beds in the time of the first frosts, may be kept much longer in flower, by throwing a light covering over them nights, as netting or sheets, supported by chairs, or props, or branches, from breaking the stems. Those plants suffer first from frosts, that have most succulent (juicy) stems, (except those naturally "*tender*,") and those in the dampest ground. This is why dilettanti and professional gardeners drain the subsoil of their parterres, and use light, dry, upper soils, and build rockeries from which water naturally escapes. Some herbaceous plants may be kept along many weeks later than usual in flower, by protecting them as already mentioned on *severe* nights, and strewing tan, litter, leaves, or straw, to retain heat, and throw off water. These protectors, or sand, or ashes, laid carefelly over the roots and about the collars of delicate ligneous plants, will preserve them from year to year, through ordinary winters.

Editor's Table.

STATE AND COUNTY SHOWS FOR 1856.

New-Jersey,	Newark,	Sept. 9—12.
Vermont,	Burlington,	Sept. 9 to 12.
Canada East,	Three Rivers,	Sept. 16—18.
Virginia,	Wheeling Island,	Sept. 17—19.
Ohio,	Cleveland,	Sept. 23—26.
Canada West,	Kingston,	Sept. 23—26.
Am. Pom. Society,	Rochester,	Sept. 24—30.
Michigan,	Detroit,	Sept. 30—Oct.1,2,3
New York,	Watertown,	Sept. 30—Oct.1,2,3
Illinois,	Alton,	Sept. 30—Oct.1,2,3
Pennsylvania,	Pittsburgh,	Sept. 30 to Oct. 2.
Kentucky,	Paris,	Sept. 30 to Oct. 5.
Virginia,	Richmond,	Oct. 28 to Nov. 1.
Tennessee,	Nashville,	Oct. 9—14.
National Ag. Show,	Philadelphia,	Oct. 7—10.
Connecticut,	New Haven,	Oct. 7—10.
Maryland,	Baltimore,	Oct. 21—24.
California,	San Jose,	Oct. 7, 8, 9.
Wisconsin,	Milwaukee,	Oct. 8 to 10.
New Hampshire	———	Oct. 8, 9, 10.
Iowa,	Muscatine,	Oct. 8—10.
North Carolina,	Raleigh,	Oct. 14—17.
Georgia,	Atalanta,	Oct. 20—25.
Indiana,	Indianapolis,	Oct. 20—25.
Maine,	———	Oct. 28—30.
Alabama,	Montgomery,	Nov. 11—14.
South Carolina,	Columbia,	Nov. 11—14.

New York County Agricultural Fairs.

Albany, Albany,	Sept. 23, 24, 25.
Cattaraugus, Little Valley,	Sept. 17, 18, 19.
Cayuga,	Sept. 17, 18, 19.
Delaware, Walton,	Sept 24, 25.
Essex, Elizabethtown,	Sept. 18, 19.
Franklin, Malone,	Sept. 24, 25, 26.
Jefferson, Watertown,	Sept. 17, 18.
Monroe, Rochester,	Sept. 24, 25, 26.
Madison, Munnsville,	Sept. 8, 9, 10.
Onondaga, Syracuse,	Sept. 10, 11, 12.
Orleans, Albion,	Sept. 25, 26.
Oneida, Rome,	Sept. 23, 24, 25.
Ontario, Geneva,	Sept. 24, 25, 26.
Queens,	Sept. 25.
Oswego, Mexico,	Oct. 17, 18.
Rockland, New City,	Oct. 8, 9.
Rensselaer, Lansingburgh,	Sept. 16, 17, 18.
Schuyler, Watkins,	Sept. 8, 9.
Seneca, Waterloo,	Oct. 8, 9, 10.
St. Lawrence, Canton,	Sept. 18, 19.
Tioga, Owego,	Sept. 24, 25.
Washington, Union Viliage,	Sept. 10, 18.
Wayne, Lyons,	Sept. 23, 24, 25.

A Word to our Exchanges.—In order to get as much matter into our paper as possible, we have given, during the present year, all our original matter *solid*. That is to say, we give our original matter in the form that most papers print their extracts. This may account for the fact that very many of our exchanges copy our articles without the usual credit. The extent to which we suffer in this respect, is past all belief. For instance, the *Virginia Farmer* for August contains *thirty-one* articles copied from the *Genesee Farmer* without a word of credit! Our contemporary probably thought that because they were printed *solid*, that we had extracted them from other papers without credit. This is not so; many of the articles copied were not only entirely original, but cost us considerable labor. We never copy without giving credit.

The August number of the *Wool Grower* contained three articles copied from the *Farmer* without credit; and, what is still more remarkable, they were given in the Editor's Table, which is generally supposed to be devoted more exclusively to the editor's own effusions. Our amiable neighbor of the *Rural New-Yorker*, too, is in the constant habit of copying our articles without credit. True, they are mostly short articles which he appropriates, but it is just these short articles—the cream of a subject—which are generally the most valuable; and we would remind our neighbor that

"It is a sin to steal a pin," &c.

Furthermore, the matter in the *Rural* is all *leaded*, and hence it is that we frequently have the pleasure of seeing our articles "going the rounds," credited to "that able agricultural paper, the *Rural New-Yorker!*"

We trust that we shall not have to allude to this subject again.

Flood in Massachusetts.—The *Boston Cultivator* of the 16th ultimo says: "Last week will be long remembered for the great quantity of rain which fell, and the damage done by water and by lightning. After the prevalence of a fresh wind from the ocean for a week, during which time the air had become charged with vapor to the highest degree, a storm commenced on the night of the 5th instant, and in the space of ten hours, four and a half inches of water was precipitated to the earth. The effects of this had just strikingly appeared in the rise of streams, when, on the 8th instant, another storm set in, accompanied by lightning, and in the space of twelve hours about five inches of water fell—making nine and a half inches in about three days. The greatest injury from this unusual quantity of rain in this vicinity, is in the overflow of low grass grounds. The meadows which form the banks of the Charles and Neponset rivers, had been mowed to the extent of one-third, perhaps, though a large portion of the grass that was cut remained on the ground in a partially cured state. The water has been so high as to cover most of the uncut grass, and from the length of time the freshet has continued, the crop, including the outstanding hay, will be ruined. The damage on other streams has probably been serious. The Connecticut has been very high—eighteen feet above low water mark at Springfield, as reported in the papers—and the intervales must have been overflowed to a great extent. We have received no particulars in regard to the injury to crops in this valley, but have reason to fear that it has been very great. The railroad, which follows the general line of the river, was so much injured that the travel for several days was interrupted. Accounts state that rain has lately fallen over a large extent of country, but we have seen nothing to indicate that the storms which were so severe here, extended with much force west of the Green mountain range."

Enormous Price for a South Down Ram.—It is said that Jonas Webb refused five hundred guineas ($2,520,) for his yearling ram that took the first prize at the Paris Exhibition. Mr. Allier, director of the "Establishment of Beneficence," in France, (an industrial penetentiary for young prisoners,) writes the *London Times* that he has purchased a ram of Mr. Webb for two hundred and sixty-two pounds ($1,257 60)!

Good Wheat Crop.—The wheat crop of Mr. E. S. Hayward, to which we alluded in the last number, has been threshed, and the yield was *thirty-five bushels of merchantable wheat per acre!* Mr. H. estimates, from the shrunken grains in it, that the weevil destroyed about five bushels per acre. This is a great yield *after oats*. Who can beat it?

New Books.—In addition to the list of books given in our advertising columns, we have recently obtained—

Morton's Cyclopedia of Agriculture—Decidedly the best and most recent work of the kind in the language. It is in two volumes, illustrated with numerous engravings on steel and on wood. Price, bound in morocco, $22; in cloth, $18.

Rhind's Vegetable Kingdom—A very superior work, illustrated with *colored plates*, and a large number of steel and wood engravings. Price $6.

The Farmer's Guide—By James Webb, Veterinary Surgeon. A treatise on the diseases of horses and cattle, with a selection of approved prescriptions, and instructions for the management of breeding mares and colts, and a few remarks on the breeding and management of sheep. Price 87½ cents.

How to Choose a Milch Cow—By J. H. Mayne, Professor of the Veterinary School, Alport; with a supplement on the dairy cattle of Britain; their qualities, habits, management, and productive results; with hints for selecting, by John Haxton. Price 62½ cents.

Smith on the the Construction of Cottages. This is an essay on the construction of cottages, to which the premium offered by the Highland Society of Scotland was awarded. Illustrated by Working Plans. Price $1.

The Farm Engineer—A treatise on barn machinery, particularly on the application of steam and other motive powers to the threshing machine, &c., &c. By Robert Ritchie. Price $3.

The above works are all published by Blackie & Son, of Glasgow, Edinburgh and London, and are not reprinted in this country. There are no better works of the kind extant. We have also the *Rural Cyclopedia*, by the Rev. John M. Wilson, an excellent work, but not quite equal in many respects to Morton's. Handsomely bound in four volumes. Price $16.

The American Pomological Society.—The Sixth Annual Session of this Society will be held in this city, Sept. 24—30. The Exhibition of Fruits will be held in connection with that of the *Genesee Valley Horticultural Society*. Matters of great interest will be brought before the Session, and the attendance is expected to be quite large. Western New York enjoys an enviable reputation as a fruit growing section. Great things will be expected of her, and we trust our horticulturists will make great efforts to have the exhibition at least equal to these expectations.

Monroe Co. Ag. Society.—The Annual Fair of the Monroe Co. Agricultural Society will be held at the new Fair Grounds of the Society, near this city, Sept. 24, 25 & 26. Some fifteen hundred dollars are offered in premiums, and great interest is manifested by the friends and officers of the Society, so that we expect an excellent exhibition and a large attendance. Ex-Governor Hunt will deliver an address on the last day.

Prolific Strawberry.—At the June Exhibition of the New York State Horticultural Society, a single plant of Longworth's Prolific Strawberry was shown, containing two hundred and thirty-one berries. This variety took the first prize.

Horses in England.—The London *Farmers' Magazine* says the "demand [for horses] is now increased far beyond the power of supply, and good horses are making fabulous prices."

Notices of New Books, Periodicals, &c.

Memorials of His Times. By Henry Cockburn. D. Appleton & Co. New York: 1856.

This is one of the most interesting books that we have read for some time. It is written with great ability, and the stirring events in the life of such a man as Lord Cockburn, and the men with whom he was brought in contact, afford abundant materials for a number of volumes. We are glad to have the cream in the volume before us.

Household Mysteries: A Romance of Southern Life. By Lizzie Petit, of Virginia, Author of "Light and Darkness." New York. D. Appleton & Co. 1856.

This is a well written and interesting novel, the characters perhaps a little overdrawn, but not too much so to suit the popular taste. Some of our lady acquaintances pronounce it "good," "excellent," "splendid," &c., &c.

Six Months in Kansas. By a Lady. Boston. J. P. Jewett & Co. 1856.

This book is made up of a series of letters written from Kansas, during a six months' residence, by a lady of Massachusetts. The letters bear the impress of truth, and will be read with interest.

Forest and Shore; or Legends of the Pine Tree State. By Chas. P. Ilsley. Boston: John P. Jewett & Co. 1856.

We have seldom read better stories than a number of those contained in this book. "The Wrecker's Daughter' is one of absorbing interest, and there are several others that are "first rate."

Inquiries and Answers.

(H. N. Titus, Whiteford, Ohio.) Hydraulic Rams.—Hydraulic Rams can be obtained at most agricultural warehouses. You could certainly get them at Columbus or Cleveland, or from H. C. White, of Buffalo, N. Y. The price of a ram fit for general purposes is $25. Lead pipe extra.

(Mrs. S. J. Crossman, Watervleit, Mich.) Spirea Sorbifolia—*Mountain Ash Leaved Spirea.*—The leaf and flower you sent belongs to some Spirea, apparently Spirea Sorbifolia. The Spireas are all hardy shrubs, and most of them very pretty; the colors mostly different shades of red and white. Amongst the red ones are Spireas *Douglasii, Grandiflora, Callora, &c.*

(B. D. Bigelow, Iowa Falls, Iowa.) Cure for Garget.—The recipe referred to is in brief this: Twelve grains of hydriodate of potash dissolved in a tablespoonful of water; to be given three times a day till a cure is effected. The easiest way of getting at the proper quantity is to buy half a pound (218 grains,) of hydriodate of potash, and as this will contain enough for eighteen doses, mix it with eighteen tablespoonfuls of water in a bottle. Give a tablespoonful three times a day.

Spring or Fall Planting.—Please let me know when is the best time to set out apple trees, in the fall or spring? I bought some trees of an agent of the Rochester Nursery two years ago this fall, and my neighbors also bought some of the same man. We told him they had been out of the ground too long when we got them, and mine and my neighbors all died. H. Inman—*Hagaman's Mills, N. Y.*

Cooking the Kohl Rabi.—*Messrs. Editors:*—You gave me last spring, a lot of garden seeds; among them were what is called the Kohl Rabi, which to me and mine is something new under the sun. Now I desire of your thousands of readers, information as to cooking the article. I want to know the best method of cooking or otherwise preparing them for the table, and shall be under great obligation to whomsoever will give the desired information. D.—*Gates.*

PLOWING AND PRUNING AN OLD ORCHARD.—Please inform me through the *Farmer* what time of year is best to plow an old orchard—spring or fall? Also, when is the best time to prune it? W. A. MARTIN.—*Lynn, Susquehanna Co., Pa.*

CHINESE HOGS.—I notice in your paper a description of the Chinese hog. I would like to know where and at what price they can be obtained. J. DINE—*Jacksonboro', Butler Co., Ohio.*

If any of our readers have the Chinese hogs, we should be glad to hear from them.

LAYERING THE PEACH.—Is the peach ever propagated by layering? I have a limb of a peach tree partly broken off, so that the branches lie on the ground, and I find that where they are covered with a little loose soil they have taken root. I have thought from this that the peach, under some circumstances, might be advantageously propagated by layering. Have you or any of your correspondents any experience on this point? I have also observed that cuttings of the peach, when accidentally left on the ground, will strike root and grow. W. A.—*Monroe Co.*

LILAC ON ASH STOCKS.—I have tried several times to graft the lilac on ash stocks, and always failed. The stocks used were white ash. The lilac being one of the earliest shrubs to leaf out in the spring, and the ash one of the latest, the union seems unnatural; but if it can be effected, a great object will be gained, by getting rid of the shoots from the roots of the lilacs. If any of your friends have succeeded in grafting the lilac on the ash, or any other tree, I wish they would let us know the time and manner of operating so as to secure success. E.—*Carleton Place, C. W.*

ROSE BUGS.—Do you permit lady readers to make inquiries? If so, I should like to know what will prove efficacious in destroying the small slugs on the under side of a rose bush leaf? Our bushes, as well as many others, have been completely destroyed by them. As they are our favorite flower, it is very annoying, and most thankfully would I receive any information for their extirpation. Is now the best time for setting out strawberries? M. L. BEATTY—*Aurora, N. Y.*

We not only "permit," but are delighted to have our lady readers make inquiries. We are, however, exceedingly sorry to be obliged to confess that we are unable to suggest any effectual means for the extirpation of rose bugs. We have given several methods of lessening their numbers in the July number; but we are free to confess that these remedies are not always efficacious, and certainly do not extirpate the pests. We hope some of our lady readers will take up this matter and give us a "certain remedy."

Strawberries may be planted out this month. If the weather is rainy, or the ground is *thoroughly* watered as soon as the plants are set out, they do as well set out now as in the spring, and are more likely to bear fruit next summer. See article on this subject on another page.

ADVERTISEMENTS,

To secure insertion in the FARMER, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to farmers. TERMS—Two Dollars for every hundred words, each insertion, PAID IN ADVANCE.

LAWTON BLACKBERRY.

DESCRIPTIVE CIRCULARS, with terms of sale, and and ample directions for cultivation will be forwarded to applicants.

Address WILLIAM LAWTON,
July 1—4t. No. 54 Wall street, New York.

FRUIT AND ORNAMENTAL TREES, &c.

A. FROST & CO., Proprietors of the Genesee Valley Nurseries, Rochester, N. Y., offer one of the largest stocks of Fruit and Ornamental Trees and Plants for sale the coming autumn that there is in the United States.

The stock comprises in immense quantities, every description of Standard and Dwarf Fruit trees, including the smaller fruits. Also,

ORNAMENTAL TREES, SHRUBS, ROSES, &c.

For farther information, attention is directed to the following Catalogues now published, and containing prices of the different articles, which are mailed to all applicants upon the receipt of a one cent postage stamp for each Catalogue wanted.

No. 1. Catalogue of Fruits.
No. 2. Catalogue of Ornamental Shrubs, &c. (just published.)
No. 3. Catalogue of Dahlias, Verbenas, Green house and Bedding plants, &c.
No. 4. Wholesale Catalogue for Nurserymen and Dealers and for those who wish to plant trees in large quantities, (just published.)
No. 5. Supplementary Catalogue of Fruits, &c., containing many new articles introduced up to the present time, (just published.)

Address A. FROST & CO.
September 1, 1856.—2t. Rochester, N. Y.

FAIR OF THE NEW YORK STATE AG SOCIETY,

AT WATERTOWN, SEPT. 30, AND OCT. 1, 2 & 3.

THE Annual Exhibition of the New York State Agricultural Society will be held at Watertown, Jefferson county, September 30th, and October 1st, 2d, and 3d.

The *Rome & Watertown* and *Potsdam Railroads* will carry stock and articles free, and passengers at half fares. The *Lake Ontario Steamboat Company* will carry stock and articles and passengers at half fares. The *Hudson River* and *N. Y. Central Railroads* will carry stock and articles free, with the usual condition of payment when shipped, to be repaid if stock and articles are returned, ownership unchanged, with certificate of exhibition.

The arrangements at Watertown will be of the most satisfactory character, and provisions for stock upon the ground, such as to enable the owners to have them upon the ground the week previous and during the Fair, in comfortable quarters, with plenty of food.

☞ The stock and articles passing over the Rome & Watertown Railroad *must be sent the week previous to the Fair*, as the road will, the week of the Fair, be *exclusively devoted to passengers*, and trains will be run as often as may be necessary from Rome and Cape Vincent to Watertown to transport passengers intending to attend the Exhibition, without delay.

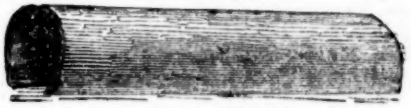
A very choice herd of Devon cattle, and superior Short Horns and Herefords are already entered for *public sale*, affording an opportunity never before given at our Fairs of purchasing the very best stock at public sale.

Entries may be made at the office on the show grounds the week previous to the Fair, or with the Secretary at Albany at any time previous. B. P. JOHNSON, Secretary.

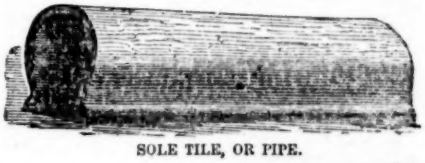
Agricultural Rooms, Albany, September 1, 1856.—2t.

TILES AND PIPES FOR UNDERDRAINS.

THE Rochester Brick and Tile Manufacturing Company are prepared to furnish Tiles and Pipes of all sizes for underdraining land, cellar drains, &c., at the following prices:



HORSE SHOE TILE.



SOLE TILE, OR PIPE.

		Per 1000 pieces.	Per rod.
2 inch	Sole Tile,	$10 00	1s. 6d.
3 "	"	20 00	2 6
4 "	"	30 60	4 6
5 "	"	50 00	6 0
8 "	Round Tile,	80 00	10 0
2 "	Horse Shoe Tile,	8 00	
3 "	" "	12 00	
4 "	" "	16 00	2
5 "	" "	25 00	3

The Tiles are strong, hard burned, and of very superior quality.

Persons wishing tiles will find it to their interest to call at the office of the Company, 22 Buffalo street, Rochester, before purchasing elsewhere.

A large quantity of Brick always on hand.

WM. OTIS, Superintendent. JASON BAKER, Agent.
September 1, 1856—1t.

EVERGREEN TREES AT LOW PRICES.

MESSRS. ELLWANGER & BARRY solicit the attention of Nurserymen, Planters and Dealers in Trees, to their immense stock of Evergreens, by far the largest ever offered in the United States. They are prepared to furnish the following at the extremely low prices annexed.

☞ All frequently transplanted and, therefore, finely formed and well rooted.

	per 100	per 1000
Norway Spruce, 5 feet	$60 00	$500 00
" " 4 "	40 00	350 00
" " 3 "	25 00	225 00
" " 2 "	18 00	150 00
" " 1½"	15 00	120 00
" " 1 "	10 00	70 00
" 4 years Seedlings, 2 years transplanted		30 00
" 1 year, from Seed bed		10 00
Scotch Pine, 12 inches	10 00	80 00
" " 9 "	8 00	60 00
Austrian Pine, 10 to 12 inches	12 00	90 00
" " 6 to 9 "	10 00	80 00
Arbor Vitæ Siberian, 3 feet, beautiful plants	40 00	
" " " 2 " " "	30 00	
" " American, bushy, for hedges, 2-2½ ft.	8 00	60 00
" " " " " 1-1½ ft.	5 00	40 00
" Golden, a beautiful tree, 1½ to 2 feet, $9 per dozen.		

	per doz.
Himalayan Spruce, (Abies Morinda) 2 to 3 feet	$10 00
Pinsapo Spruce, (A Pinsapo) fine broad plants, 10 in. high	9 00
Chili Pine (Auracaria imbricata) in pots, 12 to 18 inches	9 00
Deodar Cedar, 2 to 3 feet, beautiful plants	9 00
African or Silver Cedar (C. Africana, or Argentea) beautiful, 1½ to 2 feet, (more hardy than Deodar)	9 00
Japan Cedar (Cryptomeria) beautiful Seedlings in pots, 3 ft.	10 00
Funebral Cypress (Capressus Funebris) in pots, 1 foot	5 00
Twisted or Bhotan Cypress (C. Torulosa) in pots, 1 foot	4 00
Yew, English, 1½ to 2 feet	4 00
" " 1 "	3 00
" " 6 inches	2 00
" Golden, (Elegantissima) 9 to 12 inches	5 00
" Irish or upright, 1½ to 2 feet	5 00
" " " 1 foot, $3 per doz., $18 per 100.	
" " " 6 inches, $2 per doz., $12 per 100.	

For further details we refer to our Wholesale Catalogue, sent gratis to all who apply and inclose a stamp. Address

ELLWANGER & BABRY,

Sept., 1856.—1t. Mount Hope Nurseries, Rochester, N. Y.

TO NURSERYMEN.

STOCKS AND SFEDLING TREES.

WE solicit the attention of the trade to the following articles, which we are prepared to furnish this fall at the annexed low rates—all are exceedingly vigorous and well grown.

	per 1,000
MAGNOLIA ACUMINATA, 3 year Seedlings, 2 feet	$50 00
" " " " 1 "	30 00
ELM, American, 2 year Seedlings	15 00
HORSE CHESTNUT, 3 yr "	60 00
" " 2 " "	40 00
OAK, White American, 3 years	20 00
" Red " 3 "	20 00
BUTTER NUT, 3 year Seedlings, 2 to 3 feet	40 00
BLACK WALNUT, 3 yr " 2 to 3 "	40 00
MAPLE, Silver, 2 " "	12 00
" Scarlet 2 " "	20 00
" Sugar 1 " "	6 00
" " 1 to 2 feet	30 00
LARCH, European, 2 feet	50 00
CATALPA, " 1 foot	40 00
MAHONIA, or ASHBERRY, one of the finest Evergreen Shrubs, 2 year Seedlings	50 00
" 1 " "	20 00
PLUM SEEDLINGS, 1 year, native	10 00
PEAR " 1 "	10 00
CHERRY, Mazzard, 1 "	4 00
" Mahaleb, Strong	15 00
MANETTI ROSE, Stocks, Strong	40 00

For further particulars we beg to refer to our Wholesale Catalogue, sent gratis to all who apply and enclose a stamp.

ELLWANGER & BARRY,

Sept. 1856.—1t. Mt. Hope Nurseries, Rochester, N. Y.

FRUIT AND ORNAMENTAL TREES.

HIGHTSTOWN, N. J.

THE Subscriber offers for sale, for the Fall of 1856 and Spring of 1857, a fine collection of Standard and Dwarf Pears, Standard and Dwarf Cherries, Standard and Dwarf Apples, Apricots, &c. 200,000 *Silver Maple Seedlings*, and *Ornamental Trees* of the most approved varieties.

A Descriptive Catalogue, and a Trade List for wholesale dealers and nurserymen, will be sent on application. Applicants for either will please enclose a penny stamp. ISAAC PULLEN,

Sept. 1—2t. Hightstown, Mercer Co., N. J.

EMERY'S HORSE POWERS AND THRESHERS. For sale by A. LONGETT, 34 Cliff street,

August 1—2t. Corner of Fulton, New York.

FRUIT AND ORNAMENTAL TREES.

ELLWANGER & BARRY have the pleasure of announcing to their customers and the public in general, that they have now in their grounds, for the ensuing fall trade, a very large and complete stock of Fruit and Ornamental Trees, embracing—

Standard and Dwarf Apple Trees;

Standard and Dwarf Pear do.;

Standard and Dwarf Cherry and Plum, Peaches, Apricots, Nectarines, &c.

Quinces—Large Orange, fine grafted plants.

Gooseberries, of the best sorts, a large stock.

Currants—Including the newest and finest sorts—upwards of 300,000 plants.

Raspberries—Including Brinkle's Orange, and several new and fine ever-bearing sorts.

Blackberries—High-Bush, and New Rochelle or Lawton—a large stock.

Besides Walnuts, Chestnuts, Filberts, and all other fruits usually cultivated.

Grapes—Native and Foreign, in large quantities.

Strawberries—All the best new and old sorts.

Rhubarb, Asparagus, &c.

ORNAMENTAL TREES, SHRUBS, &c.

Deciduous Ornamental Trees, for Streets, Parks, Lawns, Cemeteries, &c.

Flowering Shrubs.

Roses—An immense collection, old and new, covering upwards of *five acres* of land.

Evergreen Trees—Including *half a million* of Norway Spruce, of all sizes.

Weeping Trees—Every thing desirable.

Double Dahlias and *Bulbous Roots.*

Hedge Plants, of all sorts.

Stocks and Seedling Plants, for Nurserymen.

Green House and Bedding-Out Plants—A full assortment.

Nurserymen and dealers dealt with on the most liberal terms, and amateurs' orders attended to with the greatest care. Packing done in the most thorough and skillful manner, and with the best material.

For full particulars we refer to special advertisements, and to the following Catalogues sent gratis to all who apply and send a stamp for each:

No. 1—Descriptive Catalogue of Fruits;

No. 2—Descriptive Catalogue of Ornamental Trees, Shrubs, Roses, &c.;

No. 3—Catalogue of Dahlias, Green House and Bedding Plants;

No. 4—Wholesale, or Trade List;

No. 5—Supplemental Catalogue of Fruits.

ELLWANGER & BARRY,

Sept., 1856—1t. Mt. Hope Nurseries, Rochester, N. Y.

BULBOUS FLOWER ROOTS.

WE have now on hand a large stock of choice Bulbs, and are receiving a new invoice from Holland, consisting of the finest

HYACINTHS, Double and Single.
TULIPS of all the Classes,
CROWN IMPERIALS,
CROCUS, JONQUILS, NARCISSUS,
JAPAN and other LILLIES.
GLADIOLUS, a superb collection of new and all the older sorts, &c., &c., &c.

We are prepared to furnish all, at low rates, in large or small quantities, and solicit orders during the month of September, before the bus/ season opens.

☞ Priced Catalogues forwarded *gratis.*

ELLWANGER & BARRY,

Sept., 1856.—1t. Mount Hope Nurseries, Rochester, N. Y.

THE HOOKER STRAWBERRY.

WE shall be prepared to furnish young plants of the above new and splendid Seedling Strawberry after the first of September next. This variety was originally raised by our Mr. Hooker, and thoroughly proved by him. The experience of the past season has fully demonstrated that what we have claimed for it is true.

"IT HAS NO EQUAL FOR GENERAL CULTIVATION."

Some of its recommendations are:

Great size, and remarkable beauty.
Unequalled excellence and richness of flavor.
Very hardy, productive and vigorous plant.
Perfect blossoms, requiring no other sort as a fertilizer.
Ripening early, and continuing long in bearing.

Price $1.50 per dozen, $5.00 per hundred.

STRAWBERRY PLANTS, of all the best standard varieties for marketing and for the amateur's garden, for sale in large or small quanties, and at moderate prices.

H. E. HOOKER & CO.,

Rochester, Sept. 1—1t. Commercial Nurseries.

WM. R. PRINCE & CO., FLUSHING, N. Y.

WILL supply for present planting, Strawberries an unrivalled collection, the new descriptive catalogue now ready. Also, Bulbous Roots, Pæonies, Rhubarb, Asparagus of the finest kinds, Madder, Licorice, and Seeds. Chinese Potato in October at reduced prices. Priced Catalogues for applicants.

September 1.—2t*

A CHANCE TO MAKE MONEY!

PROFITABLE AND HONORABLE EMPLOYMENT!

THE Subscriber is desirous of having an agent in each county and town of the Union. A capital of from $5 to $10 only will be required, and anything like an efficient, energetic man can make from three to five dollars per day; some Agents are realizing twice that sum. Every information will be given by addressing, with a stamp to pay return letter, WM. A KINSLER,

Sept. 1.—1t* Box 1228 Philadelphia, Pa., Post Office.

A FIVE DOLLAR LIBRARY FOR FARMERS,

SENT BY MAIL FREE OF POSTAGE.

THE American Farm Book,	$1.00
Diseases of Domestic Animals,	75
Brown's Field Book of Manures,	1 25
The Stable Book,	1.00
Nash's Progressive Farmer,	50
Munn's Land Drainer,	50

This Library is arranged with a view to supplying the greatest amount of practical instruction without needless repetition. At least this much of an Agricultural Library should be in the hands of *every farmer in America.*

Our Descriptive Catalogue of Agricultural Books sent to any who will favor us with their address.

C. M. SAXTON & CO., Agricultural Book Publishers,

Sept. 1—1t. 140 Fulton street, New York.

UNITED STATES AGRICULTURAL SOCIETY.

THE FOURTH ANNUAL EXHIBITION of the United States Agricultural Society will be held at Powelton, (Philadelphia,) on Tuesday, Wednesday, Thursday, Friday and Saturday, October 7th, 8th, 9th, 10th, and 11th.

Premiums from Twenty-five to Two Hundred Dollars, amounting in the aggregate to *Fourteen Thousand Dollars*, will be offered for the various classes of Domestic Animals, Fruits, American Wines, Vegetables, Grains, Agricultural Implements and Machinery.

A Local Committee at Philadelphia, representing the various branches of industry, has already been appointed to co-operate with the officers of the Society, in perfecting arrangements for the Exhibition. *Fifteen Thousand Dollars* have been guaranteed to meet expenses. This material aid, coupled with the excellence of the selected location, and the large amount of Premiums offered, induces the expectation that the Exhibition of 1856 will be superior to any of its predecessors.

A GRAND AGRICULTURAL BANQUET, in which Ladies, as well as Gentlemen, will participate, will take place on Friday afternoon, October 10th, when Distinguished Speakers will address the assemblage.

Favorable arrangements with the various Railroads, for the transportation of Stock and other articles, are in progress, the terms of which will be given on application at the office.

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September 1, 1855—1t.

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